

THE SCIENCE IN MODERNIST LITERATURE:
DEGENERATION, DYNAMICS AND DEMONS

by

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A DISSERTATION

IN

ENGLISH

Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

DOCTOR OF PHILOSOPHY

Approved

May, 2001

ACKNOWLEDGEMENTS

I want to thank the chair of my committee, Dr. Bruce Clarke, as well as the other members of my dissertation committee, Dr. David Leon Higdon and Dr. John Samson, for their assistance in this project. Without Dr. Clarke's assistance, I would never have come into the field of literature and science, so his mentorship during my time as a doctoral student has been instrumental to my career direction. Dr. Higdon introduced me to Conrad's *The Secret Agent* and set this project into motion with his guidance. Dr. Samson's suggestions have also been very helpful.

I want to thank Dr. Fred Kemp and Dr. Hugh Burns for their valuable assistance. Dr. Kemp's guidance has helped me gain insight into M.H. Abrams' theories, as well as composition theory in general. Dr. Burns, who is chair of the Department of English, Speech and Foreign Languages at Texas Woman's University, listened to my presentation on Pound and provided valuable assistance on revising this project. Last but not least, I want to thank my mother, Barbara Ragland, and my late father, Harley Ragland, for their unconditional support through my education, and Tommy Malcik, the love of my life, for his support and suggestions for scientific sources.

Parts of Section III on *Metropolis* appear in *Intertexts* 3: 2 (Fall 1999) as "Scientific Gazing and the Cinematic Body Politic: The Demonized Cyborg of *Metropolis*."

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ABSTRACT

My study covers specific works by three Modernist artists: Joseph Conrad, Ezra Pound, and Fritz Lang, in regard to their similar uses of tropes taken from scientific models. All of these authors use different modes to express similar ideas: that scientific models work to exteriorize what would normally be deemed interiorized psychology and emotion, abstract concepts that can only be expressed by linking them to conventional symbols. I argue that all three authors use these models to create allegories of metamorphosis, transformations of bodies which mirror transformations of consciousness, where order emerges out of the chaos of spontaneous simultaneity of human existence. Conrad's novel, *The Secret Agent*, poet Pound's early Modernist, Imagist, and Vorticist poems (1908-1920), and director Fritz Lang all use reified images drawn from science that emblemize their primary narrative and metanarrative themes, conflating form with function to achieve several literary goals at once. I use a framework drawn from David Porush's "Fictions as Dissipative Structures: Prigogine's Theory and Postmodernism's Roadshow," based on Porush's relation of similarities between the novel and the characteristics of dissipative structures. My study focuses on demonstrating the categories of similarities between dissipative structures, self-organizing systems, strange attractors, holographic phenomena as panoptical metaphor of part-to-whole, and order arising out of disorder.

Chapter II of my dissertation, "Scientisms, Strange Attractors, and Thermodynamics: Joseph Conrad's *The Secret Agent*," is crucial for explaining exactly how scientisms work as discursively self-reinforcing cultural iconographies which effectively code everything within their paradigms, as well as demonstrating how all

three of the authors I am studying use the human body in correlation with scientific models to reify the social and cultural themes concerning them. The body of Stevie becomes a synecdoche for London's discursive urban sprawl, which I explain as I connect the scientific tropes Conrad uses in the novel. Time, as figured in the Prime Meridian and Stevie's body, is revealed to be irreversible and ever-moving toward entropy and heat death. The circle and the hyperbola are revealed as figures predating what is now known as the strange attractor configuration, emblematic of concentric and eccentric social and cultural status (points of "being" and "becoming") as "oscillating" in a dialectic balance between the extremes of the bourgeois and anarchist factions of London society: they are "hyperbolic" both figuratively (ironically) and literally. In the last chapter of this section, I discuss Stevie's chaotic explosion as the "chemical" and biological catalyst for re-establishing order in that milieu.

The Conrad section basically covers the first four sections of Porush's categories of dissipative structures, so that by Chapter III, I frame Pound's Modernist works using the fifth of Porush's categories, holographic phenomena, entitled "Atomic Transformations in the Vortex: Ezra Pound's Chemical Poetics." Pound establishes the motive energy of what he refers to as his cultural "vortex," his symbol for the cultural paradigm of London art, using the geometry of the atom, the vortex, the turbine, and the crystal. In his view, these forms offered a way to explain his own metamorphosis into a poet capable of producing the *Gesamtkunstwerk*, the total cultural art work of an artistic community, works emblematic of the goals of the Vorticists.

Chapter IV of this dissertation covers the last category of Porush's dissipative structures, the revelation of order emerging out of chaos, with an analysis of Fritz

Lang's epic *Metropolis* (1926). The figure of the Maria-cyborg contains many patriarchal codings, all of which deconstruct, but all of which re-establish patriarchal control through the discourses written into this city society. This dissertation concludes with the idea that these authors, while using different modes of expression, all manage to demonstrate order arising out of the dissipative structures of texts through allusion to previous literary orders.

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CHAPTER I

INTRODUCTION:

THE SCIENCE IN MODERNIST LITERATURE:

DEGENERATION, DYNAMICS, AND DEMONS

The Modernist narratives I am studying attempt to demonstrate the seemingly spontaneous ordering of the chaos of social communities through the metamorphosis of human bodies, specifically through scientisms troped from scientific models. Scientisms are discourses containing scientific terms, ending up as “displacements of authority from science to non-scientific... matters,” as “discourses circulating through social channels free of scientific control yet demanding some level of literal credence” (Clarke *EF* “Technoscientisms” 1). These scientific narratives function at the level of cultural mediation “between skeptical positivism and the visionary extension of the sciences beyond the range of the empirical,” which “also allows belief to be carried over to the undemonstrable on faith in scientific, as opposed to religious or customary, authority” (Clarke *EF* “Technoscientism” 1). Joseph Conrad’s novel *The Secret Agent*, Ezra Pound’s poetic works grounded in “vortex” theory, and Fritz Lang’s film *Metropolis*, would seem, at first glance, to be completely different, since their modes of expression are all different. However, despite these differences, these authors all use figures of speech that reflect scientific models representative of complex logical, ethical and aesthetic techniques and motives, often in geometrical or architectural figures and sites in the text. These figures include circles, hyperbolas, strange attractors, atoms, vortices, crystals, and the human body, all of which reflect chaotic systems that re-organize themselves, and in

which processes of chaotic bodily transformation mirror the chaotic metamorphoses of the systems they inhabit.

David Porush's "Fictions as Dissipative Structures: Prigogine's Theory and Postmodernism's Roadshow" provides a taxonomy for interpreting these texts from a literature and science approach. Extrapolating from Ilya Prigogine's *Order Out of Chaos*, Porush demonstrates how literary texts can be read as dissipative structures arising in open systems of interpretation, where the social systems discussed in these texts exist far from equilibrium and eventually exhibit self-organization of processes through their dependence upon the initial conditions presented in their texts. Specifically, my project uses all six characteristics Porush identifies as consistent with dissipative structures: patterns associated with dissipative structures arising in open systems which exist far from equilibrium and fluctuate nonlinearly, irreversibly, and which demonstrate sensitive dependence upon initial conditions (explosions), attractor dynamics and thermodynamics, crystallization and holographic phenomena, and the self-organization of order out of chaos. My project uses these three categorizations of chaotic models to categorize and explain the unfolding action within the texts of Conrad, Pound, and Lang, respectively. As Porush implies, it is not absolutely necessary to establish whether or not an author is aware or intent upon using a particular figure with a specific and direct knowledge of the work done in science or by any particular scientist; Porush notes that he is simply illustrating the correspondence between patterns in phenomena and the work in question (74), demonstrating their formal connections.¹

Likewise, my project focuses on illustrating how Conrad's Pound's, and Lang's works all use natural patterns for the purpose of formulating various kinds of figures of

speech that conflate form with content. Although these three authors come from different backgrounds and use different modes to express their art, they all use scientific models to ground their figures as critically representative of both the content and form they present. In the novel he is analyzing, Porush uses Prigogine's notions of the relationships between the forms of figures committing actions and the actions committed, discovering that "the form of that description is a sort of semantic or stylistic metaphor" (74). This conclusion implies that scientific figural content is explained through the forms of scientific figures and their dynamics, thereby also metanarratively referring to the structure of unconventional (chaotic) patterns emerging in these texts, as well.

Ira Livingston's *Arrow of Chaos* confirms Porush's methods, demonstrating how figures of speech mask dual or multiple purposes and/or meaning. Livingston shows that it is possible to make chaotic models of these figures of speech. In his diagrams, he shows how textual narrative can be mapped according to the functions of rhetorical figures. His diagrams illustrate how Conrad's and Lang's texts and figures use metonymies which travel "a path of displacement along a continuous series of adjacent points," as well as using irony to pattern cyclical polarities of an "unresolvable dialectic" that demonstrates the full potential of a character's actions. Livingston's study is valuable in its suggestions for possible ways of reading various texts in terms of the figures I am using.

Unlike Livingston's study, however, my own has a higher degree of scientific grounding, demonstrating how and why Conrad, Pound, and Lang actually use the figures in question in their narratives, historicizing these figures as contemporary to their own respective views of science. Prior studies on the scientific elements and figures in Conrad's novel include studies done by Redmond O'Hanlon, Earl Ingersoll, James

English, Avrom Fleishman, Allen Hunter, Normon Holland, and Robert Haugh. For Pound's poetry, I will consult works by Ian F.A. Bell, Christine Froula, James Knapp, Martin Kayman, Leon Surette, Daniel Tiffany, and Reed Dasenbrock. For Lang's film, I will consult critical studies by Stephen Jenkins, Claudia Springer, Lotte Eisner, Andreas Huyssen, Sigfried Kracauer, and Patrick McGilligan). My project also integrates the critical theories of other literature and science critics, such as Porush, N. Katherine Hayles, Michel Serres, and Maria Assad, in order to verify how one can accurately read these figures as patterns of chaos in the works I am approaching, something that Livingston does not do in his own analyses. Two of the authors of my study use Expressionist techniques (Pound's Vorticism and Lang's Expressionism), while Conrad is considered by critics like Peter Stowell as a literary Impressionist, so some discussion of their artist backgrounds is necessary, as well their relationships to other movements like Futurism. Physical, psychological, and sociological information on the theories of Sigmund Freud, Henri Poincaré, James Clerk Maxwell, William Thomson, Ilya Prigogine, and Roger Penrose also help ground my study on the models used in these Modernist scientizations. In studying these recurrent patterns in literature, I hope to expose how these patterns are at least similar, if not the same, to those found in chaos theory.

In *Chaos Bound: Orderly Disorder in Contemporary Literature and Science*, Katherine Hayles defines these literary patterns as similar to those found in the mathematical techniques of chaos theory. Hayles is very well-known for her studies in Modernism in conjunction with the techniques of literature and science, particularly with Conrad, as well as with other Modernists like D.H. Lawrence. In *Chaos Bound*, Hayles explains that these patterns in the literary narratives of that time reflect and re-inscribe a

repetitive pattern productive of the indeterminacy of chaos, because such redundancy “magnifies and brings into view these initial uncertainties” of initial conditions (Hayles 183). One such example of such redundancy occurs in Conrad’s text as Stevie’s death is reconsidered over and over again through the perspectives of different characters, as well as how narrative time itself is effectively altered in order to alter the reader’s perspective of these events as consecutive. Conrad demonstrates how the situation of London on a particular day would be viewed simultaneously from many perspectives, and how the author has to re-construct those events to reflect this simultaneous “warping” of perspective, and how the author manipulates the form to attain a shift in how he wants his readers to perceive that text, as well. Like Conrad, Hayles’ *Chaos Bound* critiques the Modern experience: the correction of modern decadence (especially the kind criticized by Conrad, Pound, and Lang) is the warrant behind the privileging of natural experience (i.e., especially by the Expressionists), whereby a return to the originary experience and first principles of being is prescribed (Hayles 181). Essentially, the Modernists critique modern artificiality as a rejection of humanity itself.

According to Hayles’ estimates, linguistic systems cannot be delineated into specific speech origins, or even specific thought origins, so the Modernist project of finding forms that conform with modern themes is somewhat of a distortion of Modern perspective altogether, a theme of chaos that is very much in evidence in Conrad’s and Lang’s texts. According to Hayles’ *Chaos Bound*, the social codes of Modernist London can be seen to be accelerated in these attempts, which result in degeneration rather than regeneration. Iteration in written language plays the important role of making “visible the lack of ground for the alleged originary difference [between speech and writing]...

rendering all subsequent distinction indeterminate” (182); that is, the connections between signified and signifier become fuzzy, especially when referents become signs in themselves.² Porush notes that Prigogine’s model demonstrates a process of order self-organizing through disorder, which “challenges classical science’s assumptions about the locale of reality, [and] also indicts the insufficiency of classical science’s discourse about reality” (60). This is why I begin my analysis with Conrad’s configuration of the discourse of entropic time as degeneration.

The Modernists’ emphasis on identification and search for originary first meanings privileges the natural over the cultural, as well as privileging the objective phenomenal thing over the subjective emotions of individuals. This privileging simply places emphasis upon the alienation of the natural, without dispersing these isomorphic binarisms. This perspective is seen most vividly in Conrad’s and Lang’s narratives, where chaos is revealed as a breakdown of individual, social, cultural, and political systems, all from one point of bifurcation within their texts, which leads to a cascading movement from one unstable situation into another, exponentially precipitating the action as more and more information and bodies are added to its mix. Hayles states that when chaos is “viewed as the epilogue to life,...[it] almost inevitably has negative connotations” (*Chaos Bound* 91). Out of this “negative” chaos, however, flows the positive generation of these Modernist texts, evidence that their authors could see these figures as productive of multiple meanings, because all natural forms degenerate according to the laws of thermodynamics, much like the ways in which language itself degenerates.

Michel Serres agrees, stating that “All our classified reasoning, all our codices, habits, and methods induce us to speak [of chaos] as an outsider or by negation: outside

the law and non-meaningful” (*Genèse* 161-2). Serres’ notion of genesis is very much in agreement with Hayles’ notion of chaos as a positive force, and with Porush’s idea of language as a model of chaos. Serres makes a correlation between models (especially scientific models) and modes of linguistic expression as reduction of scale (*Hermes* 85). Serres uncovers some important notions correlative to both literature and science: both seek to model reality through visual images; both seek to align (and thus correlate and make equations of) the relationships between things through their measurements; both seek to transpose and translate the idea of things, the point of view taken of them, and how this point-of-view alters that vision of objects observed and described (*Hermes* 86). Serres’ analysis of the function of geometrical models allows me to show how geometrical models “have a notion of a module, bring the distant to the immediate” (Serres *Hermes* 92). In other words, the distant (the abstract meanings, i.e., love, hate, labor) becomes familiar by associating meanings with familiar figures. According to Serres’ *Hermes*, these models reduce the particulars of sensory, epistemological, and conceptual/aesthetic geneses to external sets that rely upon an architectural optics: physics and other natural objects thereby represent the universal origins of all experience, an arrest of the position of the real (Serres 92). Serres concludes that eventually, the measurement of expressive modes and models implies that such codings are meant to be decoded. Chaos, as origin and end and constant recycling, provides the clue for understanding these literary texts as they examine questions of originary first experience through mathematical, physical, biological, and chemical figures.

When they look to originary first experience, Hayles and Serres discover the disorder of chaos, and in language, the proliferation of meanings and non-meanings that

generate the richness of language. Hayles asserts that this operation works ultimately as a mode of translation of language of the world's disorder into a code of values (*Cosmic Web*, xxv), where the dance of disorder protects these codes from the stasis of absolute identity in the allusions to history, especially in the matrix of the human body. As Conrad, Pound, and Lang seem to imply, one can no more "divorce" themselves from their social, cultural, or literary/discursive pasts (as the Futurists desired to do) than one can blow up the world and begin completely anew. The notion is simply inconceivable; Conrad's Professor is one such figure who demonstrates why this idea must be true.

Anthropomorphic figuration of chaos defines that disorder, demonstrating that such figuration in turn creates "an unending proliferation of interpretations whose only 'origin,' ...being a direct sign of nothing, leads to no primary signified" (Spivak xxiii). This anthropomorphic quality is centered in the bodies of the personae presented by these three authors, all of which, in turn, represent the queasy states of their texts: Conrad's Stevie, Pound's own literary persona as narrator of his poems, and Lang's cyborg. All of these characters have specifically chaotic patterns that eventually work to deconstruct the concept of central control, yet also demonstrate that chaos itself is part of a cycle of inexhaustible complexity of energies. Therefore, such paradigmatic cultural proliferation of meaning is not endless chaos, but a translation of forms dependent entirely upon the will behind the interpretive act of reading; iteration allows for a translation of meaning, while new meanings are built out of collective networks of memories. How these forms are viewed depends upon one's perspective, but also upon networks within the paradigms of culture, always pressing upon the individual consciousness, and how the individual interprets those paradigms in the larger milieu of culture. Conrad's, Pound's, and Lang's

works resonate to the tune of self-referential patterns, metanarratively referring back to their own structures through the subject patterns of their texts. Allegorizations with scientific models act as narratives which always refer to themselves as artifacts of science, yet endlessly defer their meanings as the ambiguity of their terms demonstrate how meanings proliferate in these texts. As Hazard Adams notes, the self-referential allegory has artifactual being, but no innate meaning, “a form of hermeneutic which attempts always to stay within the work considered as a context,” and where the artist attempts a criticism within the form of the artwork, only to find that inexhaustible paradoxes between form and content hamper his efforts (39).

Many of the meanings embedded in these scientific tropes are unstable. These generalizations in scientisms often get confused with real science through the queasiness of non-scientific source interpretation of scientific discourse: as Gayle Ormison and Raphael Sassower argue that “in the case of signs, symbols, or words, use creates meaning” and etymological deliberations offer a provisional means by which the current use of a term can be comprehended according to its placement within a series of other uses and significations already attached to it but, nevertheless, sometimes overlooked or forgotten” (4). The discourse of science tends to establish its epistemes and technology upon first principles established prior to their induction; therefore, “theoretical knowledge requires practical application of principles” while “art presupposes knowledge of rules” (Ormiston and Sassower 4). Application through technology implies a method that is conflated with principles of their epistemes, their theories of basic truths. Like all cultural paradigms, the space of the body, inside and out, is always in the act of becoming, not simply being. The becoming of coded bodies as characters mirrors the becoming of all

texts, through acts of deferral against established meanings, ideologies, and epistemes. This reaction against culture is a natural act of defense which is often labeled as chaotic, but as a specific political reaction, is anarchic, and such are all acts of rebellion, whether political, cultural, social, religious, or artistic. The self-organization and subsequent degeneration of such figures is all part of chaotic self-organization in both plot and textual heuristic, where the first bifurcation against a flow of iteration in a text occurs. For example, as Conrad's Stevie suffers from degeneration, so does the entire city of London, which is furthermore reconstructed from Conrad's metanarrative point-of-view as he deconstructs the structure of traditionally Realist novels through a skewed timeline. Pound's degeneration of his lyric and epic persona (his omniscient narrator of most of his poems and *Mauberley*) is chronicled as a life-long struggle to attain some kind of transcendence over this degeneration of meaning through Absolute Metaphors. Lang's cyborg emblemizes the continuous loop of degradation and reorganization of orders, both in bodies and textual paradigms.

For the purposes of the texts I am examining, my project views their scenarios in terms of their oscillating movements from being to becoming, caught in glimpses of the movements of their main characters: these movements of characters and systems, within the seemingly closed systems of the texts that I am presenting, present their self-organizing tendencies through what Ilya Prigogine terms as "the spontaneous emergence of order out of disorder" (Porush 56). These texts are not closed at all, but constantly in play in culture in interpretation. In addition, these texts establish how the human body is system culminating in the individual, the body of the society they inhabit, and the body of the text all make their transitions of becoming at the same bifurcation

points, where these bodies become architectonic tropographies that map the progression of their narratives. As information “unravels” in these texts, aspects of their tropography reveal how precipitants like strange attractors (Stevie of *The Secret Agent*), holographic/electromagnetic phenomena (like Pound’s atomic vortex and crystals), and chaos (the demon Maria-cyborg of *Metropolis*) redefine Victorian and Modernist epistemes, revealing a multiply-dimensional topography overlapping at levels of narrative and metanarrative.

In Conrad’s, Pound’s, and Lang’s works, symbolic images are the things they seem to represent externally, as well as their absent referents, becoming reifications for the textual and thematic systems of their texts. These models unravel the tapestry of metaphysical coding of individual consciousness as presence in Modernist formalist methods and Victorian situation of institutional coding by exhausting traditional transcendental experience as the mode of Modern consciousness; the unified centrality of being is decentered in their post-colonial discourses. Conrad, Lang, Pound expose such moments in discourse where culturally and socially deductive logic has attempted and failed to reduce human experience to a science: their textual “ruptures” perform the work of deconstructing these denotative identified subjects by converting them into connotative absent signs in themselves that “fold” metaphor over metaphor, individual figure over and into systemic figurative expression of universalization. In the situational narratives of Conrad’s novel, Lang’s film, and Pound’s poems, allegory allows these “folding” actions to occur just as the actions of those texts occur. In addition, the figures that “unfold” this action are themselves synecdoches for the systems that actively unfold, demonstrating the metamorphosis of those systems through their own metamorphoses, using the “objective”

means of scientific models to model the calculus of this unfolding as a narrative experience. Whereas literature has most often portrayed human experience reduced from general laws into particular instances in literature, science has traditionally sought to reduce particulars to general laws. In these Modernist texts, the authors appear to seek the ultimate foundations of signification, the first principles of the elemental essences of things, melting signified to signifier, thing in nature to symbolic form in writing.

The “characters” of the narratives I am studying are sometimes symbolically associated with certain scientific models so that audiences may witness their internal psychic transformations performed in an exteriorized form. Sometimes, programmed social codes are reified in the bodies of “chaotic” synecdochal figures, whose bodies symbolize an ideal ethos of their social Modern milieu. For example, in *The Secret Agent*, Stevie draws circles; in Pound’s “Plotinus,” the poet is referred to as “an atom on creation’s throne” (*A Lume Spento* 6: 36), and in Lang’s film, the Maria-cyborg is created, mirroring the Mind-administrators’ creation of a city reliant upon its technology for its life. The valence of all of these tropes is centered around the ultimate trope of death as economy of chaos whereby order can re-emerge, always shifting between energy and information, bringing about cosmic order through the disorder of individual human experience. The degradation of individual codes mirrors the subversion of dominant Modern experience, and follows patterns described by Serres, Hayles, and Assad, most notably in the field of chaos theory as applied to literary study.

The first chapter of my study concentrates on scientific tropes in Conrad’s *The Secret Agent*. Stevie’s “loopy” “degeneration” mirrors the dissipation of London in the political throes of its revolutionary debates on time itself: figures of time, wrought in

clocks, circles, and bombs, are all brought together as anthropomorphized tropes, exposing their hidden potentials for exercising both a thematic and metanarrative level of meaning. These tropes imply Conrad's questioning of scientific motives, and then, ironically, goes about showing how scientisms work in his novel to deconstruct the very notions that give science so much credence in the first place. In the first subheading of this chapter, I use Conrad's text to introduce the concept of scientism in Vladimir's explanation of the Prime Meridian as a symbol of bourgeois values of London of the late nineteenth-century, and how this scientism works to focus other scientisms presented in this text as synecdoches of transformation of the system of London, with Stevie representative of the degenerative nature of all things in this system, physical and textual. Many Conrad critics such as Avrom Fleishman, James English, Redmond O'Hanlon, and Earl Ingersoll have mentioned the importance of figures like the circle and the triangle in Conrad's text as tropes linked to the overall social evolution schema in the novel, yet they fail to fully flesh out the geometrical and chaotic potentials of these figures with comparisons to scientific models. The idea of time is crucial to these figures in this novel, since they are all connected to thermodynamic degeneration, so Chapter II introduces how the Prime Meridian is the figure of time to which the central character of Stevie is connected. The circle as symbol of perfection is warped to demonstrate Conrad's warping of individual perspective in London's social circles, which I map as the circular irregularities of the "attractor," which Katherine Hayles explains as "simply any point within an orbit that seems to attract the system to it" (*Chaos Bound* 147). As an attractor, Stevie demonstrates Ilya Prigogine's theory that if "the attractor [nonequilibrium] state is defined by the minimum of a potential such as the entropy production," then "its stability

is guaranteed,” meaning that any change, however minute, can change the entire state of the system it inhabits (Prigogine 140). Stevie is the main figure representative of this “node,” specifically a “strange attractor” around whom every event in this text revolves, so subheadings three through five demonstrate how Stevie’s mental and physical degeneration affects the balance of the evolution of political and social events of London, moving from a dynamic of the interaction of forms to an explosive thermodynamic finale. I find it necessary to first trace the dynamics of that system and its attractor, Stevie, then show how the system of London evolves through Stevie’s transformation, which as Prigogine notes, involves two different descriptions: dynamics (motion) and thermodynamics (the production of work). I use Katherine Hayles’ and Prigogine’s definition of attractor activity to justify my comparison of Stevie’s activities to the patterns described in attractor activity, thereby linking Conrad’s moment-by-moment cinematographic montage of narrative activity as a times-series of points in a directional flow of possible actions. As each character makes his or her choice of activity, possible directions are eliminated by trial-and-error, leaving each character with only one possible direction of action. This time-series analysis has a definite pattern of activity, a process of elimination characteristic of catalyst/anticatalyst reaction, which gradually links the dynamics of the characters to the “chemistry” of their interaction.

Stevie, as *strange* attractor, also works at the metanarrative level as the “heart” of Conrad’s ethos, the center of his moral message, the “germ” or “anticatalyst” whose own death manages to bring balance to the unstable system of London. As a figure, Stevie produces a certain amount of work for Conrad’s message, as well as for Verloc, working as a catalyst for demonstrating the direction of evolution toward increasing entropy for the

system of London, as well as for revealing the direction of Conrad's dark ironic message. In Avrom Fleishman's estimate in *Conrad's Politics*, thermodynamic entropy dissolves into informational entropy as Stevie's "degeneracy" reveals itself as a disease inherent to both his health and the health of London, which is destroying itself through its own "moral insanity" (qtd. in 195), literally and discursively, a fact that Conrad is emphasizing through his own ironic punning upon the rhetorical term of hyperbole. Conrad took the real bombing attempt in 1884 on the Greenwich Observatory, the site of the Prime Meridian, and purposefully exaggerates its events to make his own moral points. Ironically, the very topography of London is laid out according to Conrad's own "hyperbolic" geometrization of London, itself an ironic reference to the patterns of political, social, and cultural circulations within the horizon of London. Livingston's modeling of irony as an oscillating polarized cycle clarifies Conrad's geometrization of this activity. In the end, this "hyperbole" explains both the form and the content of Conrad's text. Like many of Conrad's novels, *The Secret Agent* cleverly implies the author's presence rather than announcing it as Pound does in his poems.

Pound underwent a creative transformation and evolution that spanned his entire career. In my study, I will focus only on that section of his career spanning the early Modernist period, roughly from 1908 until around 1925. While Modernism (especially Vorticism) as a movement had long since waned, Pound's immersion into Modernist methods had not, even by the late 1930s. In Chapter III, the figures of the atom, the vortex, and the crystal offer possibilities as metaphors for stages in his transformative journey as poet. Most of my argument derives from Pound's own criticism, especially his geometrical/ analytical theories in the critical essay "I Gather the Limbs of Osiris" of "On

Virtue” of 1911, the essay “Psychology and Troubadours” of *The Spirit of Romance* of 1912, his “Vortex” manifesto of 1914’s edition of *Blast!*, and *A Memoir of Gaudier-Brzeska* of 1918. The trope of the atom as it is connected to the vortex as trope is discussed in Ian F.A. Bell’s *The Critic as Scientist*,³ when he discusses Pound’s influence by John Burnet’s *Early Greek Philosophy* of 1892, and how latter-day atomists “considered the vortex an ordering force” (Burnet qtd. in I Bell CS 146). I also discovered that atomism is studied in contemporary linguistic studies, particularly where syntax is concerned, morphology, and the unity and “binding power” of grammar (as in the use of pronouns). Jacob Bronowski cites the atomism of Democritus in his studies on human language, noting that Roman Jakobson identified Democritus’ use of sentence structure composition as a model against which the ancient Greek philosopher formulated his theory of matter composition (146).⁴ While Bell presents the larger cosmological implications of the vortex, I present the microscopic level of its generation, demonstrating how Pound’s cultural vortex grows from this “molecular” matrix of poetic vital impetus into and in conjunction with certain images associated with the atom and its power, such as the crystal and the turbine.

The first section of Chapter III introduces the early Modernist era of Pound’s poetry, beginning with 1908’s “Plotinus,” the poem that introduces the connection between the poet as atom and the vortex as poetic energy of culture. The second section focuses on demonstrating the articulation of Pound’s atom and vortex as working tropes in his critical poetics, where he uses algebra and geometry as metaphors for the relationships of the poet’s cultural generation to the circulation of poetic forms past, present and future, including an introduction to the concept of the fourth-dimension as the

“invisible” energies of poetic generation. Section Three introduces the connections between Pound’s initial “atomism” of poetic forms in Imagism as it relates to his formation of Vorticism in the 1914 *Blast!* “Vortex” manifesto, and how his trope of the crystal works to advance these theories from 1914 until the 1920s. Section Four works in analyzing the failure of the turbine as a trope, as well as why Pound’s “radio corpse,” as Daniel Tiffany terms it, is really a trope of the crystal as a literary imaging machine. Christine Froula confirms the use of the crystal as metaphor, as well as identifying the subject rhyme of Pound’s poetry as a “repeat in history” that “represents desire as well as fact” as a repetitive pattern and structural symbol (Froula 139). I identify this repetitive subject rhyme as the structure consistent with the typological allegories within Pound’s Cantos as reification allegory, linking the allegories of Odysseus, Dante, and Confucius with his own poetic odyssey and metamorphosis. Furthermore, this subject rhyme pattern is consistent with Pound’s own metamorphosis allegory, when he uses metamorphosis stories to emblemize his own struggles. The fifth section of this chapter demonstrates the quasi-crystalline occult nature of this “liquid” crystal as a transmitter of Pound’s resonant poetic energies. As Pound moves through his *oeuvre*, the transformation of Pound’s lyric and epic personified consciousness demonstrates a definite allegorical pattern in both his own life and his poetry, which makes its postmodern gains after the Modernist era during some of his most trying years of imprisonment and personal degradation. Froula identifies Pound’s need for a social ideal in relation to his poetic ideals, finding that Pound sought in Eastern Confucian models an alternative social order, deriving its power from Fenollosa’s interpretations of Confucian natural processes, a mediation “between the ‘sincere heart’ and the social order, reconciling differences in an

ultimate ‘natural’ common ground” (149). In so many words, Froula is summing up Pound’s need for the order in scientific metaphors as an ethos for a “naturalized” poetic language, since “nature is bound up with change, destruction, and death,” and since “no metaphor commands universal acceptance” (Froula 149-50).

The mediation between the heart of the artist and the social and cultural vortex was Lang’s aim, as well as Pound’s. Another figure undergoing allegorical transformation of consciousness is the Maria-cyborg of Fritz Lang’s *Metropolis*. Donna Haraway’s studies on the figure of the cyborg are instrumental to my own study, since her works most closely identify the characteristics of the cyborg as a model for chaos, otherness, and object of science. In Chapter IV, I introduce Lang’s method as typically Expressionistic, demonstrating how he uses the cyborg’s body as a reification of the city of Metropolis. The cyborg is a synecdochical allegorical figure, encoded with the part-to-whole informational degeneration of the social, political, and cultural signifieds of a dying city. In sections two and three, I show how Lang uses Biblical and other kinds of metaphysical symbolic imagery to set up a reification allegory containing typological allegorical figures. The cyborg’s transformation is in actuality a mere mirror image of the ironic struggles between three figures of power in relation to her: Joh Frederson, the City-Father; Freder, the last hope of the city’s transformation; and Rotwang, the scientist/sorcerer who makes the transformation of the cyborg possible through technology. Frederson desires to control the workers through Maria, an underground worker’s daughter who has influence over the workers. Joh manipulates Rotwang, as representative of science and technology, to kidnap Maria and replace her with the cyborg. In the fourth section of this chapter, I relate how linguistic coding through naming practices initially programs the Maria-cyborg,

but fails because of the cyborg's abject otherness. Rotwang's passion for Joh's dead wife, Hel, persuades Rotwang to comply with Joh's request, attempting to recall the spirit of the dead Hel. However, the spirit he calls up to animate the robot is a demon, and her chaos almost brings about the destruction of both Mind (the city administrators) and the Hands (the underground workers); only the mediation of the Heart (Freder) saves the city from total degradation into chaos and destruction. In Subheading Five, I discuss how the "magic" of Rotwang's science works to create what he and Joh Frederson believe to be the perfect engine, and why that engine must invariably fail. At this point, I begin to show how the cyborg works to bring order from her chaos.

In Subheading Six, I discuss Lang's re-establishment of the city's order in the truce between the Mind and the Hands. This synecdoche reifies the sign of a social machinery experiencing the distress of the city's polis caused by the dialectic warring of opposite ideologies, the resolution of which is an ironic pushing-aside of differences in order to vanquish complete chaos in the form of the cyborg. The cyborg, as sign, conflates and deconstructs the notion that linguistic codes transcend their physical forms, shown in Maria's retooling of the allegory of Babylon. Maria reworks the tale's focus from Nimrod's defiance of God into an allegory of work and production. Ironically, her own story is a dialectic war of production and reproduction, where function and form meet in the reduction of her own codes to those of her cyborg twin, whose birth and death deconstruct the institutional codes that had previously hampered her own efforts at reform of the city. The cyborg's death signals the ultimate absence of all tropes, entropy, a zero programming where the identity of a topography and then lack of topography illustrates, in Serres' words, "an iconography," a "multiplicity of possible profiles and the integration

of all possible horizons” (*Genèse* 41), all possible directions of action and the reduction thereof by each character’s choices of action in these texts. In Subheading Seven, I reveal how the other chapters are metanarratively connected to Lang’s own forceful personality, and that he is really the hero of his own screenplay. This chapter concludes the dissertation with the idea that chaos arises out of the disorders of the situations portrayed by Conrad, Pound, and Lang with their hopes of somehow rectifying some of the political, social, and cultural problems of the Modernist era through the personal power and authority of their art works, all through the “facts” presented by their uses of science.

Notes

¹ In his analysis of William Marshall's works, Porush notes that while evidence is absent as to whether Marshall as author was aware of these principles of science, he was only looking for correlations between the figures of science as they were used in the text, rather than attempting to discern this author's intention in their use, especially if Marshall was aware or not of using traffic specifically to illustrate chaos within Prigogine's conception.

² Hayles deconstructs this "modern" position as entirely illusionary, reaffirming Derrida's position that "infinite contexts invade and permeate the text, regardless of chronology or authorial intention," which confirms that "meaning is already indeterminate" (Derrida 181). Therefore, Hayles finds some correlations between deconstruction and chaos theory as methods for interpretation of signs.

³ Bell does an admirable job of explaining Allen Upward's influence upon Pound's thought, particularly where Pound needed a vocabulary to express "a universe of vital forces," expressing the mystical ecstatic vision in such a precise manner to distinguish it from "a whirl or a madness of the senses [as in a Dionysian frenzy], but a glow arising from the exact nature of the perception" of an image (Pound "Psychology" qtd. in I Bell CS 141).

⁴ For more on the linguistic theories of "atomic" construction, see Roman Jakobson's "The Kazan School of Polish Linguistics and its place in the International Development of Phonology" of his *Selected Writings*, vol. 2, p. 395, The Hague.

CHAPTER II

SCIENTISMS, STRANGE ATTRACTORS, AND THERMODYNAMICS:

CONRAD'S *THE SECRET AGENT*

Redmond O'Hanlon has sufficiently demonstrated Darwinian "neo-Lamarckian" influences on Conrad's fiction, Allan Hunter has done his own study on the ethics of Conrad's "Darwinian" approach, and James English has done a successful series of Bergsonian interpretations of Conrad's novels. As Earl Ingersoll states, "*The Secret Agent* has the distinction of being the first English novel in which it is the writer's conscious intent to articulate his society's attitudes toward science and technology," an intent which "is intrinsic to the narrative in several major ways," including how "the modern world which science and technology have created weakens the sense of social coherence and diminishes personal relations to such degree that the City itself becomes increasingly a Machine, or alternately a jungle [or slimy aquarium] in which its citizens prey upon each other" (*Representations* 42). My study on Conrad goes in on a deeper level than these studies on one novel, *The Secret Agent*, to reveal how and why Conrad uses scientific models as tropes to model his ethos and his logos through the pathos of his characters, particularly the character of Stevie in his relationships with his sister Winnie and her husband, Adolf Verloc, and how the discourse of science itself is involved in this "domestic" drama. Using David Porush's categorization of the "strange attractor" as a model and underpinning it with Ira Livingston's conception of the "oscillation" of polarities between extreme homologies, I will be discussing Stevie as a character whose

eventual thermodynamic demise is wrapped in geometrical configurations, the design of a universal statement on the state of London during the Modernist era.

Conrad's characters and their actions prove that they are all small parts of the discursive machinery of society and culture. The metaphysical influence of politics and science go hand-in-hand in this novel in a discursive process that constantly reiterates itself through human bodies and discursive bodies alike. The novel reveals that these bodies overlap, correspond, in one-to-one relationships in ways that are hard to distinguish, since they show up as icons of cultural discourse, embedded in the languages of science, history, and literature. The exteriorization of characteristics through physical caricature enables Conrad's characters to reveal their psychological processes of inversion, leading to the exterior effects of degenerative dissipation in the novel. I explain how Conrad uses scientific figures ironically, an endlessly degenerating discourse, to get this message across to his readers.

Science, Scientisms, and London's Political Medium of Power in
Conrad's *The Secret Agent*

“We want facts--startling facts...” ... Mr. Vladimir went on, as if delivering a scientific lecture. ... “What is the fetish of the hour that all the bourgeoisie recognize--eh, Mr. Verloc? ... The fetish of to-day is neither royalty nor religion. ... The sacrosanct fetish of to-day is science.”
(Conrad 25, 30-1)

In *The Secret Agent*, Conrad's Mr. Vladimir very accurately points out that science has become a sacred cow during the late-nineteenth century. Faith in country and God having failed to give the dominant middle-class the stability they were so desperately seeking, science, with its canon of “facts,” gave them some assurances of stability, or so it seemed. Their principles had also shifted to concentrate upon economy rather than spirit,

from concerns about the soul to concerns about material wealth and possessions; technoscience in particular offered methods for acquiring more prosperity, as the Industrial Revolution so aptly demonstrated. The movements of history changed as perspective changed. As Vladimir reveals, it is all too easy to equate science with the politics that manipulated it (for example, as when he suggests to Verloc that he and his friends should blow up the Greenwich Observatory, the designated Prime Meridian, therefore inscribing its site with political coding), demonstrating that one cannot divorce a set of symbols from the practices that call for it in society and culture in the first place. The whole purpose of history is to record the facts of the past in order to keep track of actions to be done in the present and the future, but when people begin to question the principles upon which history is based, their conceptions of what constitutes correct political action changes, as well. Vladimir attempts to stick pins in the bourgeois economy, like sticking pins in a voodoo fetish doll, by striking it at its very heart, the epistemology that supports it, represented by the science of astronomy. However, all the best efforts of Conrad's characters prove fruitless in the face of the dissipatory effects of real time, which are actually hastened by the anarchists' efforts to gain political control.

As Vladimir points out in the novel, he does not want the anarchists to blow up a palace, a church or a theater, since bourgeois society no longer cherished royalty, God or the doctrines of art, they had become so jaded. He is concerned with sending a message to the political conference at Milan that will get their attention to take more stringent actions toward political crimes. An anarchist speech would not be enough, as Vladimir correctly muses; only a symbolic gesture of purely destructive motive would do to evoke their pity or fear (32). Image became more important to bourgeois sensibilities than argumentative rationality, signaling that language's reliance on philosophical first

principles had also shifted. The European bourgeois god was capital gain, and science helped them to that goal, so that a split between pure ideology and material gain was felt, and the paradox of the ideal was felt most deeply in the shifts in language coding. Therefore, Vladimir accurately points out that the anarchists must attack the institution of factuality, science (33), thereby attacking the bourgeois epistemology of time.

Time is a space appropriated for the utility of such a material world, which transforms time into a spatial commodity fetish for Conrad's London; he reveals that the Prime Meridian is by-product, a commodity, of the bourgeoisie who control the power grid matrix in London as the site of world domination.¹ The sites of time and space in narrative occupy a central aspect of literary production, especially for the production of the novel, the product of a unifying heuristic, and the novel itself occupies a centralized site of production of literary work. As Sanford Schwartz points out, Modernist writers in particular understood "the opposition between intellectual abstraction and concrete sensation," and practiced writing as an art of "principal means of lifting the veil of conventions interposed between us and our immediate experience" (Schwartz 31). Conrad's presentation of physical facts intends to re-present those experiences at individual perception, which Michael Levenson confirms as a presentation of *psyche*, "the recording of consciousnesses," through *physis*, the "registering of facts," which he confirms as an ideological crisis, "the struggle between [modernism's] values and its forms, [and] the instability in the forms themselves" (36).²

The Prime Meridian becomes the site associated with the novel's debate on time, and it has a major part in the circulation of opposition in this novel. The dilution of that power grid of the Prime Meridian is part of the dissemination of information for the anarchists, their "statement" to the world on its lack of real value. Valuation of the

scientific theory only becomes “devalued” when the exchange rate of its information no longer has the power to influence, and thus, its structural identity is devalued, as well, but only if accorded as set in relation to some sense that the scientism itself is commodified. Ironically, although Vladimir’s and the anarchists’ message is lost when Verloc’s mission goes awry, ending with Stevie’s death instead of the destruction of the Greenwich Observatory, the site of the Prime Meridian. The discourses of geometry and astronomy have empowered Britain beyond a natural range of mere physical power over others, so that even the mention of Greenwich is enough for even the most ignorant to understand its significance. The Greenwich observatory is a symbol of power, backed by British money. According to Frederick Karl, Apollo Korzeniouski (Conrad’s father) and Tadeusz Bobrowski educated Conrad very early in the ideologies and the methods of science, literature, and politics: “Lacking the poetic soul of Apollo, [Bobrowski] leaned toward the scientific view, but without the easy optimism we associate with the technological mind” (Karl 84). In addition, Karl notes that Conrad’s literary aspect was distinctly Polish in its advent, deriving from “social realism--a Marxist element was not unreasonable--and its enemy in literature was the dreamy, isolated, romantic individual always ready to fight and die for his ideals” (82). Stevie is the character who fits that bill in this novel.

Conrad takes advantage of positivist³ discourses prevalent in late nineteenth-century culture by using the generalizations of such scientific principles as applicable to social function, where a confusion of “fact” with truth often resulted in the nonscientific use of factual data through the filter of metaphysical language, resulting in that linguistic skew called scientism. The spillover of science’s influence into other fields is evident in Conrad’s uses of scientific images in *The Secret Agent*, especially in Chapter Two of the novel, in the scene where Vladimir sends the secret agent, Verloc, on a mission to “throw

a bomb into pure mathematics” (33). Since that mission is impossible from a practical standpoint, Vladimir does the next best thing: he chooses a symbol for mathematics, a kind of voodoo fetish doll, an institution associated with the institution of epistemology itself, the Prime Meridian, a map of time the beginning of which is located at the Greenwich Observatory near London.

Conrad’s scientization of time in *The Secret Agent* is one such example of such an illicit discourse taking place, where time itself is institutionalized in the form of the Prime Meridian at Greenwich, England. Conrad based his domestic tragedy almost entirely upon real people and events surrounding the actual anarchist February 16, 1894 bombing attempt upon the Greenwich Observatory, the official designation point of the Prime Meridian. *The Secret Agent* was originally published as a short story entitled “Verloc” in 1906 for the magazine *Ridway’s: A Militant Weekly for God and Country*, finally appearing in novel form for J.M. Dent in 1907 (Eldridge). The institutionalization of the international time line was considered an extremely touchy political issue. Representatives of various powerful or power-seeking nations were jockeying for one of their major cities to be designated as the Prime Meridian: the chosen location would designate the time tables for the entire world. According to Joe Mehaffey, a historian with Great Britain’s Ordnance Survey (a national mapping agency), the earliest Prime Meridian (the Flamsteed) originated in 1675, named after the first Astronomer Royal; the second was established by the second Astronomer Royal, Edmund Halley; a third was defined by Astronomer Royal James Bradley in the mid-eighteenth-century; and in 1851, the fourth was established by Astronomer Royal Sir George Airy (Paul). As Mehaffey notes,

As the pace of development and travel accelerated in the 19th century, it became clear there would have to be a common, world-wide standard for

timekeeping. In 1884, 25 countries reached agreement at a conference in Washington, [D.C], USA, that Airy's Greenwich Meridian would be adopted as the "Prime Meridian" - zero degrees - from which time could be set and from which other points of longitude could be calculated. Over a period of many years, countries which had not necessarily been party to this original agreement accepted and adopted the decision. (Paul)

According to the Royal Observatory website, before the 1884 institution of the international timeline, "almost every town in the world kept its own local time;" however, "with the vast expansion of the railway and communications networks during the 1850s and 1860s, the worldwide need for an international time standard became imperative" ("On the Line"). According to this website, "forty-one delegates from 25 nations met in Washington DC for the International Meridian Conference," where "by the end of the conference, Greenwich had won the prize of Longitude 0° by a vote of 22 to 1 (San Domingo), with 2 abstentions (France and Brazil)," where the logic was dictated by the USA's prior choice of Greenwich as the basis of its own national time zone system, in addition to a seventy-two percent dependency of the world's commerce on sea charts already using Greenwich as the Prime Meridian ("On the Line"). As the bombing attempt demonstrated, however, some political groups disagreed with this sweeping designation. Articles appeared after the bombing attempt in London's *The Times* and the *Morning Leader*, but these reports were fairly sketchy and mysterious. The London newspapers considered the bombing attempt a failure, since public interest in the event was lukewarm at the time. These articles reveal that the anarchist Martial Bourdin was carrying a bottle of explosive intended to be detonated at the Observatory, when Bourdin accidentally fell while holding the bomb (Taylor).⁴ After this attempt, Bourdin's sister reportedly committed suicide. Conrad admitted using the incident once, but later retracted his admission; still, it is apparent to Conrad scholars that Conrad *did* use this initial incident

almost entirely intact for the plot of his novel, and the parallels between the character of Stevie to Bourdin, and Winnie to Bourdin's sister, *are* easily correlative. Conrad implies throughout this novel that the attack upon the Prime Meridian serves to illustrate the insanity behind all constructions as a kind of temporary panacea for fear of the future, man's fear of his own mortality. The possible destruction of these constructions illustrate that man must take his own fate in hand, rather than relying too much on institutions to do it for them.

Conrad's subplot in this novel regards the national struggles over who will dictate the international time lines, an ordering of both time and space values, couched within the storyline of a family of "anarchists" of various kinds. Conrad subtly wraps his time theme in political implications over the hidden ideologies of epistemological values, such as those that are established by scientific canons. Through tropes of time, Conrad is able to demonstrate the differences between human duration of personal experience and the morally prescriptive historical epochs of time. Conrad reveals differences between the human endurance of time and the duration of the universe, demonstrating that what is good for the universe (chaos) may not be so good for characters like Winnie, Verloc, or Stevie, whose durations of life are specifically affected by the special contingencies of vital impetus,⁵ such as that used by Vladimir to manipulate the Milan conference.⁶ Conrad purposely skews his readers' perception by scientizing his text, subtly wrapping his message in the factuality of scientific models, which ironically feed upon the fictions of literature for the construction of those facts.

Vladimir states that a "startling fact" of a bomb is needed to get the attention of the talking heads at the Milan conference is to remind them that such designations as Greenwich's status as the "beginning" of time for the entire world is purely arbitrary. As

Donna Haraway notes, nobody can objectively stand outside the playing field of culture, disembodied and god-like, simply manipulating the players on this field; in the field of knowledge, “science--the real game in town, the one we must play--is rhetoric, the persuasion of the relevant social actors that one’s manufactured knowledge is a route to a desired form of very objective power” (*Simians* 184). Therefore, in science, “practice is persuasion,” where “history is a story Western culture buffs tell each other,” since “science is a contestable text and power field” where “the content is the form,” the form of an “artefactual-social rhetoric of crafting the world into effective objects” (185). Science itself is the totalizing designator of rhetoric, the namer in the naming game. In this game, human bodies become the all-too-flammable paper upon which scientific codes are written in Conrad’s novel, and for science’s so-called moral impetus, these bodies become mere cogs in the machine of science’s modes of production, especially in the cultural discourse of time as Conrad presents it as economic paradigm. Michaelis defines his own view of bodies used in this process in Chapter 3, but he mistakenly assumes a transcendental position in regard to his own situation in London’s matrix, demonstrating by his paraphrasing of Marxist discourse that scientificisms erupt from scientificisms, and they dominate culture and society.⁷ The production of “facts” that become practice, such as the Prime Meridian, demonstrates that its own self-perpetuation is key to the success of such discourse, and institutionalization reinforces a self-perpetuating paradigm.

In the Victorian era, science’s institutionalization as the maker of facts led to more accurate technology, as “the application of these rules in specific instances” demonstrated that their purpose was to “transform parts of the natural process into workable forms of greater value, structure, and order than exist in the primal state” (Rifkin and Howard 29). As Jeremy Rifkin notes, as scientific theory gained credence in the latter half of the

nineteenth- century, so did the belief that science “is the methodology by which people learn the ways of nature so that they can reduce them to consistent principles or rules” (29). Rudolf Clausius’ theory of entropy did a great deal to shake up William Thomson’s notion of progressive transformation of the world’s energies at that time, since he showed that Thomson’s ideas were hitched to the notion that science must have the moral duty of harnessing nature for the purposes of controlling it in order to avoid the waste or “dissipation” of energy (Smith 111; Rifkin and Howard 35). “Usable” or “available” energy is that which can be harnessed, as opposed to “wasted” energy, which is part of the point Vladimir is making with his terroristic statement. These discursive constructs, ideologies, act to suspend the dissipatory effects of time. The Prime Meridian is such a construct, designed to perpetuate bourgeois ideals of order and regularity, identifiable as a construct of power by its situation in Greenwich.

This critical understanding of the transcendence of external appearances⁸ toward a universalization of meaning appears to be what the anarchists are all searching for, some in very divergent directions, as Ossipon and the Professor prove in their searches for a mystical primordial utopia beyond the merely imaginary. Scientific models are used to legitimize an extra-scientific object in Conrad’s text. Scientific detail in this text is only important insofar as it legitimizes the images Conrad is portraying. The construct of time is shown in Conrad’s text to be easily disrupted by individual perspective, which in its irregularity can not only skew but actually warp how one experiences time. My project demonstrates how Conrad established a compositional logic for the novel through the use of scientific symbols, eventually resulting in allegorizations of allegories. These allegorical images are grounded in the institutional ideologies that construct them.

Just as Vladimir demands “facts,” Conrad, as scientizer of images, must demand and present “facts,” but only gradually, to enhance the suspense of the story through the careful unraveling of the storyline. The actual “fact” of Martial Bourdin’s bombing attempt and his sister’s subsequent suicide is not historicized by Conrad, but taken out of its historical, factual context to be used as a springboard for Conrad’s fictional tale of a group of anarchists. Conrad, as scientizer, must also present these “facts” in such a way to reveal them as fictions in themselves, self-referential conventional meta-epistemes that are constructed only for the benefit of their constructors, whose motives become suspect. Even as Vladimir plans to disrupt the Milan Conference, his motives for doing so are not for the protection of the English people, but for their domination. Scientizers found problematic their use of such “factual” evidence as a means of establishing authority (which can, by Aristotle’s own definitive heuristics, include the use of analogies). What constitutes fact according to the scientific community are not always accurate from an empirically scientific standpoint of factuality, because the extension of facts *as analogies*, which are usually used in order to describe certain images, patterns, action/ reactions or ideals which are so abstract as to defy description and/or evaluation by other scientific and factual means. Even “facts,” however, are never more than probabilities of truth, as science constantly proves; facts change as more truths are revealed about the world. Moreover, these “facts” ground all institutions of learning, especially the epistemes of science and history, both of which are inextricably wound together.

These “facts” are so questionable that one cannot define what constitutes objective science; all individuals must have a role in its socialization. Conrad’s *ironic* use of scientisms reveals that people must question the ethics in relying so much on social “mechanisms,” and whether or not such constructions have any real value, either

ideological or practical; even the literary artist, who has so much “poetic license” to bend these rules, must learn to question their reliability. Confusion results when relative “truths” are somehow transformed into absolute, terrestrial “facts,” certainly the case in point regarding the designation of the Prime Meridian. These facts are terrestrial, not cosmic; they are particular to earth’s cultures alone. While only a select few agreed upon this practice of establishing the Prime Meridian at Greenwich, the rest of the world had to either suffer or enjoy the consequences of the establishment of its discourse. Such “facts” show the cross-overs going on between social and cultural discourses, and how they affect those persons within their scopes of influence, even into the range of becoming an implicit metanarrative of Conrad’s own use of “fact” as an objective means of viewing his own text. As Vladimir points out, the bourgeoisie are impervious to terror⁹ because they do not want to know about death, so they live their lives the best they can despite this knowledge, a knowledge that is supported not only by popular opinions in culture, but by the very discourses that erupt in the practices of epistemology. This epistemology is demonstrated to be a fiction, an allegory interwoven with Conrad’s own mythologization of an issue dominating British popular culture during the turn-of-the-century, the standardization of a time zone.

Conrad’s allegory of time is reinforced in its ethos with other allegories through his addition of mythopoetic narratives in the novel. James English points out the significance of the Silenus mythology in the structure of Conrad’s narrative in terms of a Bergsonian reading of this novel. This mythological narrative is not characteristic of a purely scientific discourse, as in a textbook case study, but as Freud demonstrated with his Oedipus complex, myths and other non-scientific discourses can act as prototypical examples when the study of human existence and behavior is at hand, something that is beyond mere

factuality. For example, the Professor and Alexander Ossipon meet at the Silenus¹⁰ beer-hall, a reference to an embedded allegory that reveals Conrad's own view of the matter of dealing with such "facts" as mere fictions constructed to make people feel better about the terrifying nature of "inorganic nature, of matter that never dies," "in its breadth, emptiness, and extent" (xv). Indeed, as the Silenus myth goes, if someone cannot prevent their own birth, then it is best to die quickly: while Ossipon sneers at the Professor for crying for time to do *his* dirty-work, Ossipon is "scientifically" afraid that he is going insane as his conscience eats at him for Winnie's suicide and his role in it, merely drawing out a time, a mystery, that "seems destined to hang for ever" as the endless cycle of repetitions of life and death continue, despite all efforts at change (307). Science does not always eliminate human suffering, and sometimes it actually exacerbates suffering, demonstrating that human constructions sometimes actually accelerate the process of dissipation that people try so desperately to avoid.¹¹

Conrad demonstrates problems with discursive "constructs," revealing how scientisms work at the discursive level to erode the security of epistemes. The attempt to standardize this temporalization in the Prime Meridian is a mechanistic attempt to finalize the spaces in which such change occurs. Man's perception and control of his own space shapes his own consciousness, not the movements of the planets. Mankind must exhibit either potential and kinetic energy, but of various kinds, each measured in terms of their function as phenomena, whether they are natural or the resultant of human perception of nature. Thus, the solidification of these "facts" into the discourse of history becomes in itself a metanarrative of these patterns. The Prime Meridian is a social-scientific model that frames this allegory in light of its influence on the history of society and culture in turn-of-the-century Great Britain and the world.

Cameron and Edge indicate that science and scientists are not “at fault,” per se, but that others outside the sphere of science are imbuing science with too much authority, even to the point of making scientific theories and notions sacred (4), which is how the scientizer uses the scientific analogy to evaluate as well as describe, as the ethos of such arguments. “Thus, at the simplest level, the belief that science can eliminate all human suffering and misery, and hence by itself promote human happiness” (Cameron and Edge 4).¹² Vladimir believes that the bourgeois can only be brought out of their materialistic stupor by an act so callous as to completely defy scientific “objective” explanation. The anarchists must also be brought out of their illusions, as well. As Avrom Fleishman points out in *Conrad's Politics*, Ossipon is the die-hard representative of science, especially in Chapter Three when he “misdiagnoses” Stevie as a degenerate, and in Chapter Thirteen, when the Professor makes fun of Ossipon for believing in “a humanity universally putting out the tongue and taking the pill from pole to pole” (306). Science deals with theory, not the same thing as technology, which deals in practice; however, their conflation occurs through the discursive argumentative practices of other disciplines. Thus, scientisms of scientisms occurs, further diluting the power of science as absolute authority, which is not necessarily a bad thing. Scientisms get recirculated into the culture from which they originate, and have the potential of circulating into other cultures.

In Chapter Three, Michaelis, Ossipon, Yundt, and Verloc argue over the effects that take place when idealization, history, and social organization become mixed up in a culture. Several “diagnoses” take place during this meeting: according to Yundt and Michaelis, society is “sickened,” but those two characters have radically different methods for its cure; Ossipon diagnoses Stevie as a “degenerate.” In a similar sociological “diagnosis,” Michaelis believes that the bourgeoisie will kill themselves off, “the great

capitalists devouring the little capitalists” (49), which makes him comparable in his abuse of science to Sir Ethelred’s scientization of big and little fishes as part of a great evolutionary schema. While first principles,¹³ “truths” as Michaelis calls them, are changed by action and practical application of “tools” of economics, the discourses of ideology *do* influence such changes, as well. Michaelis is right about the universe being “self-regenerated,” a fact which is mirrored in the round circulation of his body, but Ossipon is the embodiment of the scientism in action, speaking “scientifically,” to which Verloc merely utters “damn” (50-51). The mere mention of the word “scientifically” is enough for Verloc to recall the events of his recent morning, when he encountered the “hyperborean” Vladimir. Verloc’s subsequent inaction serves to perpetuate the bourgeois paradigm.

Yundt confirms Michaelis’ ideas about the “cannibalistic” nature of the bourgeois, but he notes, too, that they do not just feed on each other, but “are nourishing their greed on the quivering flesh and the warm blood of the people” (51). This statement is a recirculation of Michaelis’ biological scientism of the social evolution of mankind, but with the twist on William Thomson’s theories of entropy that is necessary for that recirculation and self-organization of which Michaelis speaks. The biological scientisms of evolution are “encrusted” with the dead physical matter without which life could not exist, so that neither the vital impetus of the anarchists or the bourgeoisie can endure forever. Eventually, they will “eat” each other up according to natural selection, as Sir Ethelred, a member of the House of Lords, is engaged in thought over the Fisheries Bill in Chapter 7. Sir Ethelred is “thinking of all the fishes of the sea” (215), comparing men to sprats and dog fish, as the Assistant Commissioner is engaged in explaining his view of the politics of progress through a “late, Darwinian, Lamarckian” perspective, according Redmond

O'Hanlon's study of the Darwinian influences on Conrad's fiction (11); bigger fish always exist to eat smaller ones, and the smallest fish of the food chain are the first to go. As O'Hanlon points out, Conrad's language concerns the history of the evolution of mankind, but was always couched in a language of physics that was slightly tainted by misunderstandings of its mysteries¹⁴ (12). Conrad couches his schema of degenerated biological vitalism in a rhetoric of physics in order to bring in the social and political discourses as a part of London's own "mechanistic" existence. Natural forces produce so-called "artificial" discourses, which work as a dialectic of warring forces to produce equilibrium.

According to Vladimir, the standardization of time, not time itself, must be destroyed for the common well-being of all humankind. Therefore, the attack on the epistemology surrounding time becomes a fact for Verloc that infringes upon not only his existence, but Winnie's and Stevie's lives, as well, a contingency of all of the action presented in Conrad's version of London. When an ideal time was localized in the Observatory at Greenwich, it established the practices of others strictly within their relations to it, disallowing other interpretations of the passing of time; the shipping capitalists might have wanted the new designations in order to have a common schedule, but then, it affected the schedules of others in the economy, a domino effect that makes everybody dependent upon that specific practice. The assumption that one can separate practice (subjects) from the discursive objects they create reinforces a metaphysical distinction between self/other, subject/object, identity/difference, essence/accident, presence/absence, succession/simultaneity, good/bad, exchange/circulation, and condensation/displacement of resources and/or energies. In consideration of Ira Livingston's notion that such binarisms reflect the polarities, the homologies, embedded in

ironic technique, I argue that Conrad's technique uses such polarities in order to produce the effects of irony. Ironic perspective evaluates the world is set in terms of relationships, so that no completely "objective" world can exist outside of human comprehension when set in relation to human discourse; the subject is always part of the paradigm he/she envisions. None of Conrad's characters can divorce themselves from their particular sets of circumstances or their milieu of London.

Cultural practice is very much at the heart of Vladimir's targeting of the Prime Meridian. Vladimir notes that bombing Greenwich has several advantages, since as an image, it "combines the greatest possible regard for humanity with the most alarming display of ferocious imbecility," and that "the whole civilized world has heard of Greenwich," even "the very boot-blacks [like Stevie, who worked as a boot-black]...know something of it" (34-35). Greenwich, as image of time, had a widely popular appeal since it was the site of bourgeois epistemological ethics, therefore, the best possible choice for a terrorist attack at that time. To attack "time" is to attack its institution and those responsible for it, astronomers who cater to Britain's bourgeoisie. In their seminal study on scientisms, Iain Cameron and David Edge state that scientism is "*present where people draw on widely shared images and notions about the scientific community and its beliefs and practices in order to add weight to arguments which they are advancing, or to practices which they are promoting, or to values and policies whose adoption they are advocating*" (3, italics authors' emphasis). Therefore, "the concept of scientism implies an *attitude to science*: those who use scientific language acknowledge and respect *authority of the scientific community*, and wish to capitalize on that authority, in order to make their discourse more persuasive," and thereby, "they reinforce and consolidate that authority" (Cameron and Edge 3).¹⁵ As Conrad himself notes in the Preface to the novel, even

though man shrinks from explanations, he goes on with his in a fully scientific, rational exposition of the bombing attempt in order to inspire indignation over the “blood-stained inanity” of an act that defies all explanation or analysis.

Conrad’s scientific treatment of the bombing history is ironic in that it defies explanation and analysis, and yet, his own compulsion to tell its story is driven by a concern with the very desensitization that led Bourdin to commit it. The function of time in language in the form of narrative had the effect of calling into question the destruction of past historical and literary forms and the creation of “new” epistemes that would sufficiently define new ways to think about the world and human need, where institutional discourse works as a machine that feeds off of social and cultural input and output.

Social science theories of the nineteenth-century, such as Cesare Lombroso’s,¹⁶ are examples of pseudo-science, which are scientific allegories which work to signify other pre-established cultural and social values. When Conrad uses time as a scientism, he is using an allegory within his own allegorical system, one which contains scientisms within science’s own discourses; when he uses Lombroso’s theory, likewise, he is using the theory as an allegorization, but he is also satirizing it. For example, the Prime Meridian is itself a heuristic fiction having no real value in terms of the infinity of time, but is simply a measuring device that automatically guarantees Britain a certain amount of impunity from the accusations of other nations. Nobody could fight the institution of the Prime Meridian when their economy was dependent upon its time tables. The web of complexity woven at the levels of these allegories, like the big-fish-eating- little-fish scenario, is represented in the invisible but prevalent form of the Prime Meridian of Greenwich Observatory, the one discursive construct that achieves its pervasiveness *because* of its allegorical significance for society.

Literature is contingent upon its place in history as a product of individuals in a milieu, as part of a whole field of allegorical networks within the space of duration that constitutes its being and how these spaces can be interpreted within fields of knowledge. The movements between the capture of a present moment to an ideal for the future mark the ideological conflation of Modernist aspirations, especially when we consider how Impressionism's seizure of the moment of time affected Francisco Marinetti's Futurist Manifesto of 1907 and the earlier formations of Expressionism from 1898 until 1910, and how they changed after 1910, splitting off into Dadaism and Surrealism. The "knitting in" of history, as Conrad coined it, is a "tragic accident" which results in reiteration of the same patterns (Conrad qtd. in Said 34); even bombs cannot stop the power of historical discourse as more and more artists, scientists, and other writers are continuously "borrowing" narrative bits and pieces from literature of the past, including the "facts" of history, even if they know that history is a tainted discourse. Discursive borrowing of this kind does not necessarily occur from direct lines of influence from one discipline to another, but rather more often the result of the concurrent movements within the paradigms of Western culture's notions of science, literature and art. The age was one of confusion and disorder between the desire to hold onto the past and at the same time construct a present and a future. The disorder portrayed by the Impressionists and the Symbolists was an urge toward social anarchy, against a prevailing stodgy Bourgeois culture that seemed to have outlived its usefulness in terms of real artistic progression; representation under those conditions would no longer do. This new revolt against representation had political backlashes, and the Impressionist movement was in its hey-day virtually at the same time that the French Symbolists, the Decadents and political anarchists were revolting against the traditional realist views of the bourgeoisie. Conrad's

central aesthetic purpose, the destruction of a time sequence, is implied by the bomb trope in the novel, where the characters themselves reveal Conrad's ethos for social change. London social views were subject to changes due to shifts in the epistemological and ontological epistemes of the time.¹⁷

Human behavior is explained and either excused or indicted, based upon the evidence of natural response, and "since science claims to uncover the true 'patterns of Nature'" (Cameron and Edge 27), its appeal turns out to be the natural and its patterns, which are frequently either confused with or set in dichotomous relation to the behavioral patterns of human beings. Human behavior must be observed directly through the five senses in its physical entirety, but scientific categories are not reliable when it comes to the differences between human nature and nature itself. The very nature of science as a discourse is caught up in the preservation of that which *is*. Conrad's position must be that the visuality of the image¹⁸ portrays the emotion of the character first, before dialogue or monologue can establish the psychic motives of the character. Conrad becomes the coroner¹⁹ of his own work, deconstructing his own world piece by piece as he lays out his vision of London and its simultaneity of discourses, all converging and diverging wildly at many different angles of perspective. Science's practical use of technologies (such as the Prime Meridian) establish what language is used and how, so that Conrad's narrative is, ironically, infused with its discourse, if it is to be considered by his audience as factually accurate in a way that complies with realism's need for verisimilitude. Scientific authority shores up Conrad's "facts" exposed in the course of the narrative's history.

Time is one space appropriated for the utility of such a material world, which transforms time into a spatial commodity fetish for London. Conrad reveals that the Prime Meridian is a by-product, a commodity, of the bourgeoisie who control the power grid

matrix in London as the site of world domination. As Jacques Derrida notes, “the linearist concept of time is...one of the deepest adherences of the modern concept of the sign to its own history” (Derrida 72), and while the placement of the planes of portrayal change nothing of the meaning, such a method reveals the novel to be a work where time is the signifier of the message, its meaning, and the nature of ontology itself. Existence is the focus of this message, and the existence of these signs, scientized in this way, marks the passage of both message and the aesthetic technique of the artist in question.

The fictional discourse of the Prime Meridian operates at this level as part of the environmental conditioning of its residents, but its interference leads to tragic consequences. This “interweaving” of discourses occurs at the level of Conrad’s use of scientisms, particularly this idea in the arbitrary designation of the Prime Meridian as site for the “beginning” of time for the entire world, a discourse that is spread throughout the body of this text *through* the bodies of the characters involved, kind of like an infection. Avrom Fleishman points out in *Conrad’s Politics* that London is suffering from a disease, a “degeneration” of morals and bodies (198-99). This “degeneration” as disease must be cured, but how to determine who gets to play doctor in the milieu of London, occupies Conrad’s conclusion. This belief in using science for the good of the world is the ethical warrant for the use of scientific analogies, and in literature, this use is usually more in tune with the appeal of science’s facts, laws and theories analogized for the purpose of establishing grounds of moral codes as demonstrated through “*a scientific description of the world*” (Ormiston and Sassower 4, italics authors’ emphasis), as opposed to the scientization of scientific practices and the development of the scientific community. As Robert Andreach states, “*The Secret Agent* attacks the logic of political anarchism sanctioning its activities on the belief that they are necessary to usher in a future where

science and materialism will answer to man's needs" (84). Unless everybody agrees upon such ethical designations, however, these codings remain problematic; the "factuality" of the Prime Meridian as the "beginning" of time is accepted only in so far as it is inculcated in cultural use. The Prime Meridian as a technology serves as the *point of reference* for the beginning of time, but it also has the effect of circulating itself in culture because it dominates the practical life styles of the people who use it, creating and reiterating a referent meaning in their lives, becoming more than a mere symbol for an idea. The Prime Meridian constitutes its own paradigm of time for the world, one that is going to be recirculated by every discourse that reiterates its sign as the beginning of time.

I hope to expose the explosive conflict between these epistemes within the tropes of time in Conrad's novel and the geometric configurations representing it. The viscosity of such tropes hides many probabilities of values, and these configurations must be explored from the standpoint of scientific accuracy in order to do them justice from a critical point-of-view. In order to loop back into a discussion of what these scientific models do for Conrad's art, I must first give details of the configurations associated with time in the novel, which include the characters of the novel (particularly Winnie Verloc, Stevie and his circles, and Verloc as Agent Δ), their connections to geometry, thermodynamics, and patterns of information in circulation, as well as how these figures work as reiterative patterns in the text itself.

Signs of the Times: Tropes of Time in *The Secret Agent*

Vladimir's initial impetus starts the domino effect of events that lead finally to Stevie's death by explosion, Verloc's death at Winnie's hands, and Winnie's subsequent suicide after she is abandoned by Ossipon. *The Secret Agent* is filled with tropes of time,

including various kinds of clocks, both metaphorical and literal, including the human time bomb, Stevie. I will begin this analysis with a discussion of time and its significance, then move into a discussion of these tropes and the situations in the novel.

This novel starts with a clock, the “blood-shot” sun of London’s horizon, and is filled with the passing of time, with different perceptions of its measurement. As Verloc makes his way down the street to the Embassy, sunlight touches everything in Verloc’s view. The sun is imbued with a moral “punctual and benign vigilance” that gives the town “an atmosphere of powdered old gold,” yet casts “red, coppery gleams on the roofs of houses, on the corners of walls, on the panels of carriages, on the very coats of the horses, and on the broad back of Mr. Verloc’s overcoat, where they produced a dull effect of rustiness;” however, “Mr. Verloc was not in the least conscious of having got rusty” (12). This metaphor of the sun’s influence implies several things at one time. As Redmond O’Hanlon notes, the sun will determine the ultimately dismal fate of the Victorian world (18).²⁰ The intemperance of the Victorian attitudes toward this imminent dissipation seemed to be a kind of Epicurean consumerism, where the “eat, drink, and be merry, for tomorrow you will die” philosophy so prevalent for *fin de siècle* England seemed to be feeding the degeneration of morals and bodies alike in their space and time. If decadence was imminent, then why should the bourgeois care if the anarchists blow up churches, art museums, or theatres, when even murder had become, in Vladimir’s words, an institution in itself, and therefore passé? (33) This scene introduces Conrad’s audience to the conditions under which a fatal series of events occur with the view of an ultimate heat death for certain characters, evening out and stabilizing the explosive London milieu in which they are configured. Conrad conflates images associated with time to ideas of

thermodynamic dissipation in order to imply and warn of a general systemic chaotic degeneration going on in the very heart of London.

Conrad mixes in bourgeois coding into his metaphysics of this scene with the sun. The “atmosphere of powdered old gold” implies the bourgeoisie economy in London as being very affluent and materialistic, an aspect reflected in the material appearance of the city itself, where even the sun is expected to enhance this “unnatural” economy. The sunlight’s gleam, however, implies a sinister foreshadowing of the events of the novel, reflected upon Verloc’s coat as red, coppery gleams, indicative of the color and elementation of blood: blood is copper-based, and its shedding by the knife through Verloc’s coat will be Winnie’s means of taking him out. This scene is crucial for revealing how Conrad links London’s economic and political circles through a scientific discourse, focusing as he does upon London’s material dissipation as he reveals characters who are struggling with time’s effects. The effect of rustiness indicates oxidation as a dissipation of metal, Verloc’s mental “metal,” but it also implies the notion of Verloc’s “usefulness,” as Vladimir puts it. In order to make himself effective as an anarchist again, he must throw a monkey wrench into the social mechanism of London’s time and space at the Prime Meridian.

When Vladimir informs Verloc that he must blow up Greenwich Observatory, Verloc is hung on the horns of a dilemma. It is obvious that he could care less about the designation of time, but Verloc realizes that to destroy a cultural icon like the Prime Meridian would have more of an effect than even Vladimir was willing to admit. As Leon Higdon notes, Conrad’s novels are “crucially transitional.” they tend to emphasize Victorian “duty, choice, moral dilemmas and causal relationships” through an exposition of existential themes (94), all signs of a shift from Victorian to Modernist paradigms.

Such a shift requires a shift in perspectives on a mass scale, especially when this shifting involves the very ways in which time and space are perceived. Verloc seems to intuit that the nature of political perspective has shifted in such a way that even ideals are no longer safe from the new Modern anarchists. They want to destroy all of the sacred cows that in any way stand in the way of their progress; as Vladimir himself states: “you anarchists should make it clear that you are perfectly determined to make a clean sweep of the whole social creation” (32). The Prime Meridian’s function is the control of time, which is why clocks, including biological clocks, are figures inscribed with political, social, and individual values. Conrad appears to warn his fellow Victorians of the snow-ball effect of discursive cultural icons like the Prime Meridian, but ironically, he is also warning of the dangers of trying to stop such constructions once they are constructed, like trying to stop the ocean’s tide from coming in by telling it to “halt.” The Prime Meridian turns out to be a two-edged sword that even its inventors cannot control once it is in the public domain.

For the Victorians, the control of time was linked to control of political spaces, but these spaces were expressly Newtonian, hence, mechanical. Mechanics, for the Victorians, culminated in the idea of the clock and clockwork precision, representative in the configuration and designation. As Katherine Hayles reveals, “the Newtonians focused on the clock as an appropriate image for the world” (*Chaos and Order* 8), because the clock represents time itself, a static Newtonian construct that dictates much of what people do on a day-to-day basis.²¹ Therefore, it comes as no surprise that the Victorians were the first to implement standardized time, not for individual purposes, but for global economy, because “the clock is ordered, predictable, regular and mechanically precise” (Hayles *Chaos and Order* 8). In Victorian society, the clock as machine had the function of reminding the individual of their duties, that lives must run like clockwork; however, as

Conrad implies, the clock is running peoples' lives, not the other way around. Clocks imply the mechanization of man by his own designs, not nature's.

Turn-of-the-century Great Britain was thoroughly “modern” in the sense that man had become a cog in a vast machine, energized by the politics of the day, fueled by the Baconian²² need for the power of control. Clocks are merely symbols for a sign-system of decadence, mathematized to the most accurate digit in order to measure human duration and human ability to put time to work, particularly in terms of making capital. The notion of the sun having a moral duty is an imposition by the bourgeois mentality of the sun's mechanistic function as it applies to man's economy. Conrad's idea is to superimpose the ethical moral of the story into the framework of his metaphysical constructions, so that even the sun in London appears to have a “moral” duty to the bourgeois society who enjoys its power as a natural keeper of time.

The sun appears to have a moral duty to the town of London as Verloc makes his way to the Embassy; this bit of metaphysics works to expose the “madness,” the futility, of superimposing such a morality upon natural phenomena, so as to control nature's movements under the guise of so-called regular, orderly control. As Vladimir states in his meeting with Verloc, “Madness alone is truly terrifying, inasmuch as you cannot placate it either by threats, persuasion, or bribes” (33). For the purposes of Conrad's novel, Stevie is the one character who is “mad,” not by any design of his own or due to the advent of peculiar circumstances, but because he was born that way, a true anarchist living in the margins of social correctness. As a biological clock, a synecdoche of natural chaos, Stevie and his circles represent the moral heart of Conrad's story. However, since Stevie is blown up rather than the Prime Meridian, his own dissipation represents to some extent the state of London society. The bourgeoisie are more interested in preserving its

ideologies as structures that maintain the social mechanism than they are in maintaining human life. Not only does Verloc take Stevie with him to Greenwich; he sends the boy to deliver the bomb to the Observatory rather than taking it himself. As Conrad reveals early in the novel in Chapter Two, Verloc is not interested in remaking, through perfection or criticism, the wheel of London's configurations, but in protecting its "social mechanism" (15), and the clock is the one machine that regulates that social machine.²³

Time becomes a discursive paradigm in which morality and order are achieved through the site of the Prime Meridian. Time was a precious commodity²⁴ for the British because of their economic reliance upon shipping, so that their capital was dependent upon the ability to control time through greater accuracy of their time devices. When time is given a form (the Prime Meridian), its control as a commodified object becomes important as a world issue, because "each commodity 'represents' a part of the system of allocation of labor time through its value" (Amariglio and Callari 194). Time becomes a site which functions as a sign of economic domination, as a reification of England's economic determinism, the location of itself as origin or essence of universal relations that fall under its values. Thus, "real" time is troped into the form of the Prime Meridian by "agents of commodity circulation"²⁵ who form false notions of themselves as "private," deluding themselves into a false notion that they are independent of the system in which they live.

The dynamics of this novel follow a pattern of elliptical movement, not exactly circular, as Conrad moves backwards and forwards to certain points of perspective, following what I would refer to as a Bergsonian perspective on human duration and consciousness. The warping of time through perspective in the novel is more subtle than the images of time portrayed, and Conrad's warping of time is an intentional warping of

the Euclidean paradigms of mechanism. As David Porush notes, “the fulcrum for the contradictory views of reality [between major schools of epistemology] is the notion of time” because “in a classical conception of physical reality, time is reversible” (57). Conrad is making fun of this “classical” paradigm. This novel refers to time through clocks on walls, characters looking at watches and such, but there are other tropes of time that are less obvious, such as Stevie’s circles, as well as the patterns of circulation and circularity implied in the metanarrative structuring of the novel, as Norman O. Holland illustrates (55). Holland’s analysis mentions how “the characters bisect and trisect one another, each touching only a part of the others in a chaos and maze of human relations. The novel fairly bristles with geometric images, as though Conrad were trying to squeeze some sort of order out of the chaos...” (55). Holland, too, mentions the circular objects of this text as connected to conceptions of order, which is precisely my argument: that Conrad has presented his idea of an order, but it is a convoluted view of this order, one squeezed by Conrad’s own horizontal perspective of reality, his own place in the real milieu of London.

This idea has a definite bearing upon the difference between time as it is troped as ideal, time as it appears within specific forms, like clocks and human bodies,²⁶ and time as it is experienced. According to David Porush, contingency vs. randomness, the systematic vs. the irrational, and the objective mechanism of “clockwork” regularity as opposed to the subjective chaos of the Modern experience of duration, are all aspects of the novel in which a balance between chance (the stochastic) and necessity (the predictable or determined) ironically work together as elements of the “free invention within a structure of constraints (75). Conrad uses time and freedom in this manner to achieve an alternative to the traditional determinism of the realistic novel.

Time is an concept made for the measurement of human duration as dissipative in Conrad's novel on a microcosmic level, not at the macrocosmic scale of universal dissipation. Time gets troped in many different images in Conrad's novel, in ways that are both conventional (time pieces like clocks, the Prime Meridian [where latitude and longitude are seen to be mere constructions of mankind]) and natural (the sun's position in the sky and the dripping blood draining from the dying Verloc's heart, heard by Winnie as a ticking sound and thinking it to be a clock²⁷). Time is spatially fetishized in the structure of the Prime Meridian, and in Conrad's novel becomes a sign, a site of political, social and culture activity. As Fleishman reveals in *Conrad's Politics*, themes of secrecy are linked to themes of ignorance in the novel, where images of "insularity" work as a spatial heuristic, where time itself is spatialized (203). This conception partially derives from the Modernist evaluation of time as spatially linear, as well as the tendency of categorizing things sequentially.²⁸

The view that something must always come from something else particularly affects conception of time and space.²⁹ Perception of time and space confounds the subject/observer, since the position of perspective must come into play, which would necessarily involve the observer's social sphere of being, so that one can see that time must be involved with the perception of space. In real time, time flows from past to future, but in the imaginary world of narrative, through the use of flashbacks (to portray history), time's reversibility enables authors to capture moments of time that have already happened; real time must be perceived differently in some ways from narrative time; narrative time can follow the mechanical, Newtonian conceptions of a reversible time.

As Ilya Prigogine notes, the world does *not* work like a clock, "for classical mechanics the symbol of nature" (111), but rather like a furnace, burning energy. Huge

gaps exist between the conception of one and the other. The Prime Meridian is a mechanical clock that defies the destruction of the anarchists because it is merely a concept, not in itself an engine but a mechanical device, a tool. It is the standard by which all other time-measuring devices are measured. Because the anarchists are subject to time's dissipatory effects, Conrad is ironically revealing how time's discourse results in Stevie's, Verloc's, and Winnie's deaths. The Prime Meridian occupies a space beyond natural phenomena and beyond dissipation on a human scale. Conrad describes the indescribable through his various scientific physical tropes. This novel contains a pattern of the circulation of configurations that demonstrate levels of work, but all of which are subject to systemic entropy. Stevie, whose emblem in the novel is the circle, is one such synecdoche for this systemic degeneration.

A Hyperbolic History: Geometric Configurations of Correspondence
and Cyclicity in *The Secret Agent*

Mr. Verloc... opened the door leading into the kitchen... and thus disclosed the innocent Stevie, seated... at a deal table, drawing circles, circles, circles; innumerable circles, concentric, eccentric; a coruscating whirl of circles that by their tangled multitude of repeated curves, uniformity of form, and confusion of intersecting lines suggest a rendering of cosmic chaos, the symbolism of a mad art attempting the inconceivable. (45)

Stevie's circles are significant for a number of reasons, some of which have to do with this particular tragic story in its thematics, some of which have to do with the use of scientific models as symbols, and some of which have to do with such symbols as emblems of metanarrative implications concerning the nature of allegory itself. In *The Secret Agent*, time and the dissolution of human bodies are themes captured in the reiterative patterns of circles as signs of correspondence, in terms of the correspondences between

ideas in the novel’s political, social, and culture thematics, as well as within Conrad’s own metanarrative purposes for his art. Time is connected to the figure of the circle of the Prime Meridian, and is re-presented throughout different conceptions of circles throughout the novel. In the novel, the perspectives of the characters reveal that human experience of their own duration³⁰ is perceived not in terms of real time’s advent, but as a series of correspondences, interactions, which are circulate the same or similar patterns over and over again. The “stopped” time in Conrad’s novel occurs according to Leon Higdon’s conception of Conrad’s use of barrier time. This “stopped” time corresponds to Bergson’s ideal of matter in his *Creative Evolution*: according to his theories, although “matter has a tendency to constitute *isolable* systems, that can be treated geometrically,” within human terms of duration “matter does not go to the end, and the isolation is never complete” (13). Conrad’s anarchists cannot make an end of the social formations of the mechanistic bourgeoisie. Nature keeps recycling, spinning down to entropy.

Stevie’s circles represent correspondences between states of being. Ossipon does not recognize them as such, but rather, as a sign of the lad’s own degeneracy. Ossipon’s own reliance upon Cesare Lombroso’s social Darwinistic doctrines are as circular and vacuous as Stevie’s “O” of a mouth, as vacuous as Stevie’s eyes, “like the meridians of a globe gone mad” (Haugh 139); his scientisms come out of Lombroso’s pseudoscience, a substitution that allows a certain amount of “French leave” with the doctrines of scientific fact. As Robert Haugh notes, “Conrad here is putting before the reader an ironic image: the radicals with their tangled skeins of political conceptions, methods, aims, vanities and prejudices,” whose use of Stevie is in itself, within Conrad’s description of the bombing attempt itself, an act of “blood-stained inanity of so fatuous a kind that it was impossible

to fathom its origin by any reasonable or unreasonable process of thought" (xxxiv). The circles of correspondence between global history and the tragic³¹ history of a girl and her family come together in Stevie's circles, in the circles of the earth's meridians, at the zero point at Greenwich, to represent their negation within that circulation of the reservoirs of energy in London.

As Peter Stine notes, the "whirling circles" of Stevie's conception "have many valences, some 'obvious' and one real," in his misunderstandings of the anarchists' lunacy, of his own lunacy, of the lunacy of a world where horses and men are treated badly, all at the thematic level (135). Conrad also implies Britain's lunacy in enforcing the institution of a starting point for time's measurement, a project of such ambitious and yet fatuous proportions that any sane man would immediately abandon it for more practical projects. Even more "mad" is any attempt to blow up such a construction once it is institutionalized in culture. When Verloc refers to Vladimir as a "Hyperborean swine," Conrad was punning on the word "hyperbolic," meaning the functions of a circle, but a "hyperbole" is also an exaggerated or extravagant statement used as a figure of speech. To "throw a bomb into pure mathematics" "is impossible," but as Vladimir himself admits, to bomb the Prime Meridian is a practical symbol for such an exaggerated statement (33). According to Frederick Karl, Bobrowski, Conrad's uncle and tutor in science, warned Conrad of this tendency, noting in a letter to the young Conrad that he "let [his] imagination run away with [him]" in a way where his super-optimism often led him to ferocious disappointments and hence, a pessimistic view (83). This slip of Verloc's tongue in using "hyperborean" when he means "hyperbolic" is also what rhetoricians refer to as catachresis, an inexact use of a similar word for a proper one (Crowley and Hawhee 259), a trope that is purposely misleading and ironic. Verloc's own status and use as a rhetorical speaker

becomes questionable when he misuses such a word. Verloc's use of the word "hyperborean" appears on the surface to be some kind of Freudian slip, but its very use indicates a reference to hyperbole, an exaggeration used for effect, a metanarrative reference to Conrad's own "excessive" processes of metonymic caricature, as well as his hyperbolic vision of the world as a method for emphasizing the axes that meet at the boundaries of individual, society, and the "hyperbolic" physics of the circuit of the Prime Meridian as a scientific force. Conrad alters audience perception by altering and "bending" the vision he is presenting, and many Modernists found that geometrizing their configurations in the manner of the Impressionists helped them to achieve that goal.

Conrad's vision is what Roger Penrose would refer to as perception of a "hyperbolic" geometrical construction. In Figure 2.1 is an illustration by Dutch artist Maurits C. Escher that demonstrates the "bending" that occurs in what Penrose, Rouse Ball Professor of Mathematics at Oxford University, gives as an example of what is known as Lobachevskian or "hyperbolic" geometry, which is very like Euclidean geometry in many ways, except that while the sum of any triangle in Euclidean space is 180° , in "hyperbolic" geometry the sum "is always *less* than 180° " (Penrose 156). The 360° circle of London society demonstrates that Stevie is less than perfect, degenerate, "deformed," even in comparison to others around him; but then again, everybody else in that circle turns out to be just as warped as Stevie is. Their very perspectives are necessarily "warped" by their limited perspectives, which is what I was referring to when I earlier mentioned Normon O. Holland's mention of "squeezing" order out of all of London's chaos (Holland 55). The clock faces in particular are linked to Conrad's figure of the Prime Meridian, always the invisible circle linking each of the characters of this novel together. As T.E. Hulme demonstrated, the mechanistic values that people superimpose

upon space come out of human constructions that have been based upon their distorted perceptions of reality; people see what they want to see and construct their realities based on that distortion (Levenson 40). According to Karl, Conrad's Preface to *Nigger of the 'Narcissus,'* explains how Conrad saw a "complete, unswerving devotion of the perfect blending of form and substance," to the "unremitting never-discouraged care for the shape and ring of sentences that an approach can be made to plasticity, to colour, and that the light of magic suggestiveness may be brought to play for an evanescent instant over the commonplace surface of words" (qtd. in Karl 109), particularly in his use of geography and configurations of geometry. Essentially, Karl states that even by the age of sixteen, Conrad was already desperate, "a young man trying to escape entropy," the fates of his father, his mother, and eventually, Bobrowski (113). Conrad found his education through the combination of the classical education he received in his public education and his practical application of a fairly substantial knowledge of mathematical principles in his sea training, tempered by certain adaptive tendencies Conrad developed in the course of his personal experiences at school: skepticism and ironic scorn (Karl 79, 848). In order to illustrate the same principle of the skewing of proportions that Conrad wants to demonstrate at a global scale, he had to connect his "evolution" of the individual to the global natural selection subject to "all the fish in the sea," the survival of the fittest as applied to social theory that Sir Ethelred is considering when the Assistant Commissioner shows up to discuss the Verloc case.

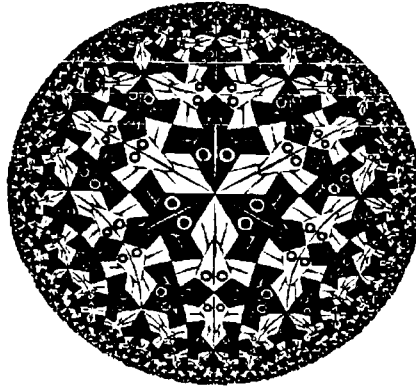


Figure 2.1. Maurits C. Escher's depiction of Hyperbolic Space (Penrose 157)

Escher's drawing is a prime example of such a "hyperbolic" universe, where the "queer fish" of Sir Ethelred's conception are stacked congruently, but the perspective of every fish in the configuration is altered by their place in the heuristic.³² This perspective answers Avrom Fleishman's interpretation of the use of the circle and triangle as figures in Conrad's heuristic for the novel, as well as Normon O. Holland's mention of these figures in his analysis.

This illustration, perhaps more than any other, demonstrates not only the "bending" of perspective of all of the "fish" in Sir Ethelred's conception, but also how Conrad views his own text, as well as how his audience can view that perspective. Nothing outside of the circle can be considered as part of this space of the circle, so that it is a closed system, and it represents the kind of pre-chaos theory done by Poincaré at the turn of the twentieth-century, the geometry contemporary with Conrad's art (Penrose 157). Perspective of the "fish" in the system would depend on whether one were considering the space of the "black" fish or the space of the "white" fish, but as Conrad demonstrates, the bourgeois "fish" and the anarchist "fish" as the "horizon of chaos"³³ cannot view each other with impunity, but can only be viewed in *toto* from the Euclidean

omniscient point-of-view. I am using Escher's illustration to demonstrate how Conrad himself accesses Poincaré's geometry in Verloc's reference to Vladimir as a "hyperborean" swine, and what he really means with this bit of metaphysical wit. This reference is one of Conrad's most important clues as trace to the theme of Stevie's fragmentation as it is presented as a case study of a "scientific" reading of London as such a "hyperbolic" milieu. To be outside that circle is to be outside of life: in death or the equivalent of God, transformed into the site of the author's ethos, logos and pathos, viewing Conrad's perspective of the world as a unified puzzle.

Redmond O'Hanlon, Earl Ingersoll, and Avrom Fleishman have identified the circle and triangle as figures significant to Conrad's schema of evolution of the individual, but I have as yet to identify anybody who has specifically pointed out that Conrad's vision implies a "hyperbolic" representation of the circle of evolution in its full geometrical ramifications. O'Hanlon identifies that "the laws of cause and effect, the microcosmic and linear laws [of Euclidean geometry] are themselves encircled by the macrocosmic laws of thermodynamics," so that the perspective of this evolution or devolution (whether one prefers to see the self-organization of London through chaos or degenerating into chaos) demonstrates that "all is illusion--the words written, the mind at which they are aimed, the truth they intended to express...Every image floats vaguely in a sea of doubt," in Conrad's own estimation in a letter to Edward Garnett dated Sept 16th, 1899 (qtd. in O'Hanlon 22).³⁴ As applied to a fictional heuristic, the characters are able to see only their immediate local situations, a form of dramatic irony that demonstrates the limitation of their own personal perspectives. The figures of Stevie's circles imply that the Prime Meridian itself is a somewhat imperfect analogy because orbits (as in the earth's rotation and its orbit around the sun) occurs in ellipses, not circles; however, that appears to be

Conrad's whole point. Victorian and Modernist scientists were not aware at that time of such a fact, so Conrad certainly would have used the circle as a symbol for the transcendence of time. What Conrad himself refers to as the boundaries between light and shadow, as well as "Eternity," is the "infinity" of "hyperbolic" space, Poincaré's plane of infinity (Penrose 157), what O'Hanlon identifies as a "vertical picture of mind, mirrored in a vertical concept of nature" (24). The vertical view of this hyperbolic picture of London gets its kick from Conrad's cinematic skewing of vision, a technique that reflects irony. For example, Ingersoll points out that when Verloc explains to Winnie that anytime somebody could stick him with a knife, this scene acts as an ironic foreshadowing of the event when Winnie herself will commit this act (238; Ingersoll, "Cinematic Effects" 31). According to Ingersoll, the timing of such expositions is crucial to its obvious ironic overtones, its slowness rendering a buildup of suspenseful tensions characteristic of film narration, and the "repeated references...have the effect similar to what a director might achieve by 'cutting' to them several times..." (Ingersoll, "Cinematic Effects" 31). This "timing" has the effect of a cinematic montage of moments.

As J. Edward Chamberlin notes, one of the central concerns of modernism was the autonomy of art as self-reflexive in its use of language and its use of self-contained logic, the result of a "disinterested irrationalism," which he sees in the transcendental characters of irrational numbers such as πr^2 , the equation for the circle, figures that have a "centripetal character" that are "directed inwards towards the structure of the discourse rather than outwards towards some ostensible referent in the real world (Frye, *Anatomy of Criticism* 351, qtd. in Chamberlin, "Mathematics" 234). Peter Stine describes Conrad's vision as a "maze of irrationality," the circles emblematic of Conrad's own attempt at revealing this lunacy, where "the evil that Conrad dared not invest intact in his characters

is projected into this 'vision' of urban London where it hovers with an elemental permanence...the emblem of a mind, Conrad's own, a 'secret' psychic basement where impulses of madness and despair lurk like 'queer foreign³⁵ fish' " (Stine 135). The dependence of Conrad's text on historical data and the past (aka "hysteresis," as defined by catastrophe theorists Domenico Castrigiano and Sandra Hayes 49) shows that this "sorting out" involves the dependence of the system on external forces, which may include forces outside the circle of London. Stevie's "equilibrium" point, his death, marks the stabilization point of London in general.

Conrad's method is one in which duration and its desperate loneliness of perspective is concerned; so how, then, does one go about rejoining individuals with their social circles, to unify the one with the many, especially in terms of literary unity? One way of weaving such unities into a single body of writing is to allegorize, to reify, the body of the written work to resemble and re-assemble the human bodies portrayed. This body of discourse, as a fictional history, is merely a literary construction, based on partial truths, but which becomes a cultural fact through its very circulation. However, as Stevie is blown to the four winds, the audience must see this fragmentation as a fragmentation of history and literature through its purposeful manipulation by "hyperborean" Vladimir. The literary manipulations, on the other hand, reveal Conrad's rather tongue-in-cheek dry humor, which James English claims is part of Conrad's scientific detachment, "really a kind of moral humanism 'in disguise,' " in which he transposes the moral to scientific categorizations ("Scientist" 150). Stevie's circles signify an ethical irony and the story's heuristic.

Stevie is the organizational center for the novel, and the unfolding of the situations in the novel occur around his death. Just as Freud designates the double meaning and play

on words as a “manifold application” in literature, the same thing occurs in mechanical theory: the surface of the text is mechanically made for multiple connections and copies by imitation, which are not exactly the same, but equivalent; in a spherical topology, every point in its neighborhood [London] is homeomorphic to the interior of its sphere of influence, where the control parameter surface is also “manifold” (Freud 649; Castrigiano and Hayes 169). The study of one “degenerate” critical point in the novel, Stevie’s death, allows me to analyze the behavior of the degeneracy of London as a system, as well as the “degeneracy” of literature as a system, where the artist himself is an anarchist. Stevie is therefore a reification of the body of the text and a reification of Conrad’s own identical ethos. Stevie’s fragmentation is a “hyperbolic” geometrical mapping of a tragedy, Martial Bourdin’s story, recut and pasted into a literary fictional world and refabricated with the intention of a particular message. Stevie is a puzzle whose scattered pieces the reader must put back together.

The seemingly closed system of London society and culture becomes the circulating system in which Stevie’s life degrades, a geometric configuration that is reified in the form of the circle. This metonymy of Stevie is a circle of life, a synecdoche, a part representative of the whole of London. The symbol of the circle is a reification of the allegory of Winnie’s history as the history of all mankind, and is the major sign of “the axis on which the world of the novel revolves” (Fleishman, *Conrad’s Politics* 198). The circle is the configuration of the Prime Meridian as such a mad art attempting the inconceivable, a nothingness that merely a construction of a dream; like Stevie, the Prime Meridian is located at a zero point of origin, not the First Meridian, as Vladimir calls it, but “Prime,” originary, aboriginal. H.M. Daleski notes that this particular configuration of the circle in this novel constitutes a “dispossession,” where vacancy indicates the waste that lies in the

heart of that symbol, the very “heart of darkness” that is mankind’s alienation from his own primal origins through “empty” constructions, the “fixed idea” of science (Daleski 148-49).

This self-referential nature of the circle as a figure in Conrad’s discourse alludes to relationships between the real and the imaginary, the degradation of real time as a circulation of energies and the ideal transcendence of their degradation by the continuity of the human race. The circle acts as a comparative referent to measure time, in the same manner that the Prime Meridian is a construction in which to standardize time for commercial shipping. As Chamberlin notes, the one-on-one correspondence between finite sets of objects (such as figures of circles) means a system of equivalencies where a part is the same as the whole, “a kind of mathematical confirmation of the chief tenet of symbolism” (“Mathematics” 236). The circle is a configuration for an inner containment and the space outside of it, and for the case of this novel, the circle symbolizes the ideal “closed” system as it exists in reality, the “open” system of Modern paradigms.

The circle is a psychic image, a completely abstract concept that does not exist in nature in a perfectly “round” or spherical form. This is the infinity, or horizon point, or the circle’s border which mediates between the world and all other. A circle connotes a lack of beginning or end, a disturbing notion to the Professor, who wants an end to all human circulation. Stevie’s circles demonstrate themselves as the trace in Conrad’s text because Stevie is a character who is all “heart” and “sensation” as revealed in the Chapter Eight scene with the horse and cabbie. Stevie’s circles are the caricature of his character as a walking contradiction, that “the conveyance awaiting them would have illustrated the proverb that ‘truth can be more cruel than caricature’,” for as Stevie attempts to keep the cabbie from whipping his horse, he demonstrates that his sentiments are completely

sensory and ideal; at this point in the narrative, “time itself seemed to stand still” as the cab somehow makes its way past the Treasury building, the trace of the ideal as an absolute presence in the text (157). The tracing of one path in this novel, that of Stevie’s existence as it ends, is, however, an intentional strategy by Conrad, to demonstrate a particular message. As a body of a sign, Stevie’s body takes on greater significance than it would have he were only an individual in society. Stevie is Conrad’s construct, whose connections to these scientisms give content to their forms.

Concentric circles represent impenetrability in social circles, parallel but isolated cells of which are focused in upon their own inverted goals. Eccentric circles, as parabolas which veer off from concentricity, demonstrate the madness of concentrations of correspondence in the concentric circles; they demonstrate that chaos will naturally break up the monotony of perfect repetitions. Stevie, Winnie, and their mother, as human “zeroes,” are people who are eccentric, who do not fit into normal London society, as Ethelred the Great Personage or even Chief Inspector Heat do. A retarded boy who sees only what is right and wrong in terms of its uttermost extremes stands out as an oddball; however, his logic is no different from the isomorphic alienating tendencies of the most complex of Western epistemes that mark categories into simple dualities. When Stevie begs the cabman not to whip his horse, the cabman, “immediately whipped,” “not because his soul was cruel and his heart evil, but because he had to earn his fare” (157); yet Stevie is portrayed as retarded in his idealism. The cabman makes such a display in order to impress this notion upon Stevie and the audience; Stevie’s behavior is the result of his mental capacity, yet the treatment of the horse reiterates an ethical and logical point that loops³⁶ around his character as image. The most revealing allegory involving circles in this novel concerns Stevie’s drawings and the typology of Lombrosian criminology.

Conrad's ironically satirizes and scientizes Lombrosian typology in the argument between Karl Yundt and Ossipon in Chapter Three, at which time Ossipon discovers Stevie in the kitchen with his drawings of circles. Distracted by the heat of the kitchen, Ossipon's temporary distraction in Stevie brings up the theme of social Darwinism, citing Lombroso's criminological typology as a source of his ability to "diagnose" Stevie's "illness" of "degeneracy."³⁷ This generalization was quite popular during the late 1890's, according to Stuart Gilman. "Degeneracy [theory] was successful because it married cultural, scientific, religious, medical and social beliefs by apparently allowing all of them to have an explanatory 'truth'," a generative metaphor of categorization that attempts to explain the deterioration of an individual's (or a system's) constitution, where "constitutional type was viewed as determining of [a patient's] physical and moral health" (173, 172). A predecessor to modern genetic theory, degeneracy theory emphasizes a taxonomy "as much theological as scientific" (Gilman 171). Conrad is using this typology and criticizing it as a dialectic in which this theory is being used as a framework to disclose the typology of the novel itself. Ossipon's pronunciation of Stevie's degeneracy seems absurd, as Karl Yundt points out by stating that "Lombroso is an ass," then pronouncing Ossipon an idiot, stating that Lombroso's criminology is nothing more than a "pretty branding iron invented by the overfed [bourgeoisie] to protect themselves against the hungry," noting that criminals are made by such discursive typology, not by those individuals so stereotyped (47-8). Yundt complains cuttingly about Ossipon's reliance upon Lombroso's discourse, going into lurid, graphic detail about the "smell" of "red-hot applications" of this "branding iron" onto the "skins" of typed criminals (47-8), using the metaphor of cannibalism to describe the bourgeois "nourishing their greed on the quivering flesh and the warm blood of the people" (51), the cannibalism implicit within the

“big fish eat little fish”/ “big capitalists eat little capitalists” metaphor. Stevie, however, sees this metaphor in its literal applications because he understands what it means to be stereotyped, as well as what it means to become a victim of this system. Sandy Stone notes that when the political apparatus of government gets involved in this scientized location technology, that it couples “the phantasmatic space that location technology calls into being” with “the physical space of pain and pleasure that the human body inhabits” (399), an act of situating the individual that “is able to guarantee the production of stable concepts of citizenry, where the physical attributes of the citizen are combined with the “virtues” of that individual to make up a “socially apprehensible citizen” as “a collection of physical and discursive elements” (399).

Because “Stevie swallowed the terrifying statement with an audible gulp” (51), the audience knows that Yundt’s discourse leaves a far greater impression on Stevie than Ossipon’s does. Conrad later reveals Chief Inspector Heat’s inspection of the quivering flesh and warm blood of Stevie, “a heap of rags, scorched and bloodstained, half concealing what might have been an accumulation of raw material for a cannibal feast” in the morgue (86). This Lombrosian typology has a symbolic power that affects these people, because they know they carry these signs in their own physical attributes: every character in the novel has defining characteristics that render them as particular types of people, and as Conrad reveals, they do little to overcome their own biology; they can criticize it in others, as Ossipon does, or criticize theories like Lombroso’s, as Yundt does, but the physique of every character reveal them to be what they *appear* to be, especially in the characters of Winnie, Stevie, Verloc, Ossipon, Yundt, the Professor, and Michaelis. The lack of moderation in these characters is revealed in their gaunt or fat physiques (Michaelis, Verloc, Sir Ethelred, Inspector Heat, Winnie’s mother, and Winnie are all fat

or plump, while Yundt and the Professor are rail-thin). In their lack of defining features (as in the vacant similarities between Winnie, Stevie, and their mother) as “human zeroes,” signs of absence. Their excesses and their inadequacies are so caricatured by their excess or lack of presence of body, certainly the basis for Lombroso’s own typology, but with the difference that Conrad is pointing to need of identity *though lack*, the inner space of the mind as the symbol of the circle, the inside/outside dialectic that dominates Conrad’s sense of irony in London as paradox.

Winnie, Stevie, and their mother lack identities in London society, and as Allen Hunter notes, “Conrad is quick to exploit the uses of absence of names,”³⁸ as Winnie’s and Stevie’s mother is never identified by name, and “when she leaves the family it is as though she has already ceased to exist” (Hunter 162). The circle is a sign of nothingness, the spin of “cosmic chaos, the symbolism of a mad art attempting the inconceivable” (Hunter 162). Ossipon’s diagnosis is, in itself, a stereotypical vicious circle³⁹ that Stevie can never escape, a naming practice that absolutely dominates its victim.

Conrad and Freud both agreed upon the value of double-entendre in analogies.⁴⁰ This doubleness constitutes and dislocation of its literal subject, denotes and connotes, life’s organization in an “economy of death” (Derrida 69). In Chapter Eight, when Conrad’s narrator refers to the condition of decay of the cab as “profoundly lamentable, with such a perfection of grotesque misery and weirdness of macabre detail, as if it were the Cab of Death itself” (170), Conrad is making the necessary economic correspondences between the horse and cab in their decayed state and its occupants, Winnie, Stevie, and their mother. While the cab takes their mother to her “rest home,” the audience will later be reminded that while the old mother is obviously closer to death than her daughter or son at that point of their perspectives, both Winnie and Stevie will be dead in a fortnight,

while the mother will live on, not knowing that either of them are dead. Therefore, this image holds the double meaning of the economy of death as a foreshadowing of what will come for the three characters, and Stevie, as the configuration who is the focus of Conrad's center stage, is the image whose immediate "circle" of correspondent influences focuses Conrad's ethical message, "It was a bad world" (171). Conrad's novel models this world ironically.

As Max Black demonstrates in his *Models and Metaphors*, the scientific model is a "heuristic fiction" which both exposes and masks its trace, especially the idea of entropy as part of a "system of associated commonplaces" (Zencey 190; Black 40). David Porush notes that "the literary text is the trace or result of one dissipative structure giving rise to another dissipative structure" (76) in a self-perpetuating loop of culture. The "scientific" model works similarly to James Guetti's ideal metaphor (172),⁴¹ Stephen Pepper's root metaphor as ideal type (Zencey 186), and Pound's Absolute Metaphor of his *Memoir of Gaudier-Brzeska*. A simple example from Conrad's work backs up my claim by revealing a couple of mythological references in the text as themselves allegorical, which points, in turn, to the novel as a reified allegory, showing how Conrad uses the circle as a symbol within his plot, a symbol of the metanarrative and self-referential value of allegory itself.

Verloc's double-entendré in using the word "Hyperborean" to describe Vladimir can only be allegorical. Roger Tennant maintains that Conrad was making a pun by a vocabulary error on Verloc's part (meaning hyperbolic, rather than hyperborean) (313-14): the mythological land of the Hyperboreans was considered a utopia from which an arrow, flung by Apollo, traveled throughout the world, bearing a Hyperborean by the name of Abasis ("Hyperboreans").⁴² The allegories in which these scientisms are used demonstrate why those uses of scientisms are important to a maintenance of Conrad's

own narrative ethos. The figure of Silenus works on several levels to yoke together normally disjunctive concepts; because it is a myth into which the mythology of London itself is interwoven, Conrad may also be demonstrating how such narratives work better than so-called legitimate uses of science.

Porush claims that the literary text is “the trace or result of one dissipative structure giving rise to another” (76).⁴³ Stevie is the configuration of a human whose becoming destroys his own being, but also constructs discourse by posing it as only one point in human duration that is always moving toward the absence of death. Conrad “selects” Stevie to illustrate the selection principle of entropy, since he is both the most probably candidate for destruction from the macrocosmic level of evaluation, but the least likely from the microcosmic level of individual, which is why Ossipon is “scientifically” afraid of Winnie when she explains how Stevie was the one who died in Greenwich Park, and he exclaims “scientifically, in the extremity of his astonishment: ‘The degenerate--by heavens!’” (290). Stevie chooses to carry the bomb, assisting the time of Conrad’s narrative by giving it a cosmic rationale.

Every action in Winnie’s history is defined by Stevie’s and Verloc’s situations. mapping this history involves constructing a graph in order to plot these changes as they occur in real time, noting every action as points of change according to an initial fixed point of designation, with the horizontal x axis representing position of the character and the vertical axis y representing the velocity at which action occurs. This circular configuration is dynamicized through its three-dimensional expansion to the calculation of all possible directions of action, the six dimensions of a phase space. This configuration confirms what P.G. Tait demonstrated as the juxtaposition of kinetic and potential energy, where kinetic energy “expressed energy of motion (such as molecular motion), while

'dynamic' [energy] referred to those fundamental general principles (such as conservation of energy) which regulated all the phenomena of nature" (Smith 257). Crosbie Smith notes that Tait's annexation of the term "entropy" to the differentiation between kinetic, available energy to dynamic energy was "a concept of special significance for the 'engineering' perspective of the science of energy in Britain" (Smith 257). The individual's perspective (Stevie, Chief Inspector Heat) is kinetic and available, as compared to the dynamic energy of the system of London.

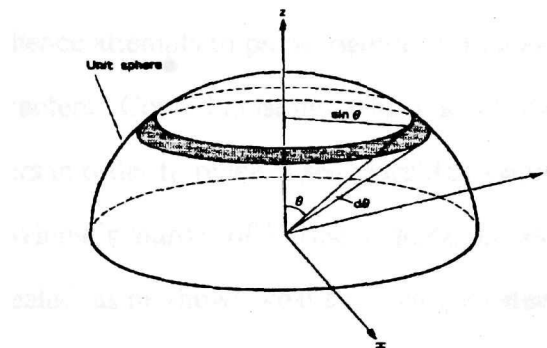


Figure 2.2. The Calculation of All Possible Directional Distribution in a Spherical Three-Dimensional Matrix (Adkins 121)

The plotting of such energies would not be a simple matter to plot in Conrad's tale: the narrative order is purposely skewed in order to reflect the human durational perspective of his characters, starting at a fixed point (Verloc's meetings with Vladimir and the anarchists at Verloc's house), to immediately after the bombing as Ossipon and the Professor discuss the event and Chief Inspector Heat inspects Stevie's remains, then back to the events of the day of the bombing and the domestic drama of Winnie's discovery of Stevie's death, her murder of Verloc, and her subsequent suicide.

Stevie's "mad" action determines the expressed energy of motion (chaos) in the novel that sets off its domino effect of reaction (Winnie's killing of Verloc and her own suicide), while it also manages to balance the unstable political atmosphere of London (the dynamics of the system) by conserving its energy at Stevie's, Verloc's, and Winnie's sacrifices. In terms of mapping the history of this novel, the possible designation points, as demonstrated in Figure 2.2, have all kinds of possible directional flows. In the narrative, such possibilities are laid out when Winnie considers Stevie's death and how she will respond.⁴⁴ From a cinematographic point-of-view, all action must occur as a montage, where the audience attempts to piece together the clues of the plot from the interaction of these characters. Conrad must move back and forth between the perspectives of characters in order to reveal a sequence that makes sense. As Conrad describes the action of Winnie's murder of Verloc, a quick succession of perspective from Winnie to Verloc is revealed, as he shows what she does (her stealthy pickup of the knife) to Verloc's observation of Winnie's approach, to Stevie's "haunting" of Winnie's face, to Verloc's reaction to seeing the action of the shadow of Winnie's arm as it raises then descends to strike him, not quickly enough for him to stop it but quickly enough for him to understand what she is doing to him. The circumstances are displayed as a cascading set of points of action and reaction, in what Katherine Hayles refers to as the reiterative symmetrical patterns of chaos.

Earl Ingersoll confirms this idea, stating that "'reassembly' of a fragmented 'line of action' is similar to the distortion of chronology in *The Secret Agent*. ...In its very fragmenting and reassembling of experience [the flashbacks and flashforwards in the narrative's chronology], such a novel has unmistakable parallels to film" (Ingersoll, "Cinematic Effects" 30). This "oscillation" between states of materiality and psychology

is very like Levenson's claim of Conrad's use of *physis/psyche*, in which the external body mirrors the internal emotions of the character in question (Levenson 7). Stevie's consciousness oscillates in this manner, from passivity to violence, from existence to non-existence. Stevie is never "absent" in this sense, but he is "non-existent" as a living character at various points, a sign of a negation of Modern ideals, but one which is necessary as having "pedagogical and social character," as the negative definition, a negation of humanity.⁴⁵ Configurations of spaces demonstrate that while stationary objects or objects that move at ordinary speeds can be predicted, that most interactions in spaces between objects are dependent upon recursive symmetry. Flows within space, whether turbulent or not, can be measured quantitatively, not qualitatively, according to linear dynamics where the emphasis is upon the individual (atomic) unit of structure. "Rather than trying to follow an individual molecule [or individual, as in Conrad's characters], ...this approach [of focusing upon recursive symmetries between scale level] models turbulence [chaos or anarchy] through symmetries that are replicated over many scales" where "the different levels are considered to be connected through coupling points" (Hayles, *Chaos Bound* 13). Every space in this novel is a sign of an absence of a presence, of something that is not there, certainly the case with Stevie's character. According to Prigogine, "it is from the negative aspect [of entropy] that the positive aspect emerges: the existence of entropy together with its probability interpretation," where the universal paradoxes of irreversibility and reversible phenomena of the microscopic level co-exist by each other, since "macroscopic irreversibility only makes apparent the time-oriented polarized nature of the universe in which we live" (285). If absence signals the space of a lack, then space determines dynamics within all systems, and for Conrad, the space of London contains a complex number of concentric and eccentric

circles of force, as indicated in Ossipon's mad spin into the deconstruction of words in the newspaper article about Winnie's suicide in Chapter Thirteen.⁴⁶

Conrad admits to no well-thought out philosophy of metaphysics regarding such portrayal, as Roger Tennant reveals, yet he admits that the elements that make up his world in *The Secret Agent* "are more than Dickensian, more than earthly--it is spiritual Babylon, 'darkness enough to bury five millions of lives' " (xi), much less than that of a handful of anarchists. Conrad's position is that of the cinematographer, recording his visions as they come to him. Alan Spiegel sees Conrad's vision as cinematographic in its alienation effect, very Brechtian in its ironic portrayal.⁴⁷ The cinematographic mechanism of thought reveals the fundamental paradox of the absence of "reality," in which the presence of other realities is couched. The figure of the circle is representative of Conrad's cinematographic⁴⁸ consciousness in that Stevie, as character linked to the figure of the circle, indicative of the shifting nature of reality.

The movement of this portrayal is mechanical in that it can be manipulated through narrative ordering, as Conrad does, like a time machine: in real life, such manipulation of time is impossible because of the nature of irreversibility in thermodynamic processes. Stevie is a caricature of the negative, inverted, self-imploding aspects of London, but his movements in the novel reveal a process, "of a movement hidden in the apparatus and whose function it is to superpose the successive pictures on one another to imitate the movement of the real object" (Bergson, *Creative Evolution* 340). According to Alan Spiegel, the juxtapositioning of these shots are purposefully disjunctive, alienating, so that "the rhythm of the observer's--and the reader's --apprehension of the scene becomes abrupt, quirky, stop-and-go," as Conrad "literally decomposes his field into an arrangement of successive views" (60); his textual "objects" are not immediately

comprehensible in the Flaubertian sense of realism, but rather immersed in the distortions of the perception of one's own existence.⁴⁹

Perception is altered by Conrad's cinematographic technique, as when Winnie's conscious perception of the room changes after she has killed Verloc: "the immersion is so complete that we get the expressionistic effects of the room swaying with [Winnie's] disorientation, as if the camera had suddenly been set rocking" (Ingersoll, "Cinematic Effects" 31). Her consciousness "oscillates" to reveal the flux of degradation of her consciousness into madness. The other "oscillation" occurs in the Ideal form of the character Stevie, which is, like the Prime Meridian, a cinematographic construct which "oscillates" "from one side to the other of this point of equilibrium" (Bergson, *Creative Evolution* 344).⁵⁰ Thus, Stevie's perspective oscillates in his ambivalence between passivity and violence, between the Ideal and the Real, to portray the points at which Stevie's human duration is threaded, by which the negative part, Stevie's degradation, is transformed into the positive becoming of the whole for London's milieu. As Spiegel notes, "Conrad works this way...because he wishes to create a visual field and a manner of apprehension commensurate with a context of mystery, physical adventure, and moral enigma" (61). The "oscillation" between the perception of reality by the characters and the re-interpretation that the audience must undergo reveals the loneliness of individual perspective and its alienating effects, which demonstrates that the body of Conrad's discourse, too, takes such an eccentric course, and like Stevie's body, the body of the text resolves and stabilizes the parameters of London as milieu. Even Ossipon is subject to this oscillation in his character, whose conscience gets the better of him and whose anarchy is quieted by Winnie's chaos.

Conrad's cinematographic method is one in which duration and its desperate loneliness of perspective is concerned. One way of rejoining individuals with their societies into a single body of writing is to allegorize, to reify, the body of the written work to resemble and re-assemble the human bodies portrayed. As Conrad reveals through his Bergsonian interpretation of the time of human experience (duration) as compared to historical time, the two times are not exactly the same, but one is necessarily connected to the other: personal space and time becomes subject to its connections to historical time within the paradigms of ideological institution. How time is experienced depends upon one's position in time. After Stevie is blown up, Chief Inspector Heat notes that even though Stevie died instantaneously, that "it seemed impossible to believe that a human body could have reached that state of disintegration without passing through the pangs of inconceivable agony," noting also that while he was "no physiologist, and still less of a metaphysician," Heat "rose by the force of sympathy, which is a form of fear, above the vulgar conception of time," knowing that "the inexplicable mysteries of conscious existence beset [him]...till he evolved a horrible notion that ages of atrocious pain and mental torture could be contained between two successive winks of an eye" (87-88). Stevie's torment is short-lived in reality, but his memory torments Winnie.

Stevie's absence turns out to be the most important plot-point of the novel, as the space of a former identity. The Professor can "conceive" of the annihilation of everything, but he never really pictures it and follows it to its natural conclusions if it happened in reality.⁵¹ Stevie's absence as an object in Winnie's life leaves behind the trace of his identity in Winnie's memory.⁵² This representation in Conrad's novel is reconstructed by the narrative flashback and flashforward technique of juxtaposing Stevie's life before the

exposition, after the explosion, before the explosion again, and once again, the impact the explosion has on Winnie's and Verloc's lives afterwards.

In the scenarios involving two or more characters, I can extrapolate Conrad's plotting of narrative points. Coupling (reactions) take place between different levels of a system when its fixed points have physical significance (Hayles, *Chaos Bound* 156), as Stevie, Verloc, and Winnie do. "When a system possesses fixed points, perturbations on the smallest scale are quickly transmitted throughout the system, affecting even the largest macroscopic level," because of the system's symmetry, which "permits microscopic changes to translate into coordinated movements all through the system" (Hayles, *Chaos Bound* 156). The sets of possibilities of direction of action is reduced as these "points," or characters, are reduced. The set of possibilities are again reduced when Winnie attempts to collude with Ossipon, only to be betrayed by him, leading her again to only one conclusion, her suicide. Stevie's explosion causes a bifurcation of cascading events, like the chemical reaction in the bomb when it explodes, moving from an insignificant level of meaning to greater and greater significance as his death is considered by the various characters in his wake. Fletcher implies that an allegorical image has cosmic significance when its scale implies either a universe or a rank in a hierarchy, since the Greek word "*kosmos*" has the double-meaning, denoting "both a *large-scale order* (macrocosmos) and the small-scale *sign of that order* (microcosmos)" (Fletcher 110). Stevie and his circles are twin affects of this explosive principle of energy inverted, and the necessary social causes and effects that follow this event horizon.

Because Conrad constructs the novel within this series of flashbacks and flashforwards, I conclude that he constructed a phase space for the novel. According to Prigogine, a "phase space" is a model of an ensemble representative of a dynamic system

or systems, where “the dynamic state of a point particle is specified by a position (a vector with three components) and by momentum (also a vector with three components),” the state of which can be illustrated by two points in a three-dimensional space, or by a single point in a six-dimensional space formed by the coordinates of points and their momenta; any arbitrary system formed by n particles, times 6 numbers to specify the state of the system, where the evolution of a time series shows a trajectory (Prigogine 247). It is important to remember that in this assemblage, “exact initial conditions are never known” (Prigogine 247); however, that does not keep Conrad from representing his system of London through the ensemble “cast” of characters in this novel as points correspondent to the dynamic states compatible with the system of London. It is also not necessary to designate six dimensions, although if I wanted to plot that trajectory, I would need to trace the patterns of the text’s spaces, meanings (volume as content), and times of the characters of the text in question, as well as the spaces, intended meanings, and times of the text and that author’s consciousness, where three dimensions of reality are hidden within the three-dimensions of the virtual reality of the text. The spaces occupied by these “oscillating” characters behave “as though the phase space with they moved had been squeezed and then folded over,” thereby creating “an extremely complex interleaving of very thin layers,” which “carried on long enough, the layers approach infinite thinness, just as orbits in phase space have zero thickness,” but where “each orbit remains distinct from every other” (Hayles, *Chaos Bound* 150).

As Bruce Clarke notes, this movement is an oscillation between material states (from solid to fluid or vapor, for example), functioning as a boundary medium, thereby functioning to emphasize “the tentativeness of given appearances” (*Allegories* 104). This phase transition, as boundary intermediary, is characteristically correspondent to

mythologies of bodily metamorphosis stories. Stevie bodily metamorphoses is a phase transition, where his body transforms into another form, going from living to dead, dissipated tissue, his spirit the vaporous memory that notes the universal state of every mortal body. Stevie's "being" has zero thickness, a ghost who appears to fly into the face of Winnie as she murders Verloc, but whose appearance in Winnie's face nevertheless constitutes the cycle of movement from order, to randomness and disorder through the dispersal of his atoms via bomb, back to order again as the points of his memory align as an intact image in the system of the novel. The memory of Stevie for Winnie is a feedback loop of identification of values. According to Prigogine, in systems far from equilibrium, conditions of self-organization may occur spontaneously when non-linear actions cause a cascading of reactions, a "feedback" of cause and effect comparatively rare for inorganic things, but normal for living things and systems (153). In this novel, Stevie acts as the novel's autocatalysis of events (something that accelerates its own synthesis) who comes in contact with autoinhibition (Winnie, who inhibits his interaction with others at first) and a crosscatalysis (when two products or points belonging to two different reaction chains activate each other's synthesis), when Winnie accidentally sends Stevie with Verloc, who enlists Stevie's aid with the bombing attempt (Prigogine 153). Hayles' analyses of feedback loops is, like mine, linked to strange attractor analyses, where "the form is considered to be *encoded within the information* the system produces" (*Chaos Bound* 103). Stevie, as strange attractor, is the symbol into which Conrad's ironic ethos is coded. I conclude that this "back and forth" pendulum-motion in the novel is part of Conrad's intentionally "warped" view of the world.

Stevie as Trace of the Strange Attractor: The Mapping
of a Metamorphosis of Body and Text

Circles are signs for many different kinds of constructions in the novel, most notably associated with the Prime Meridian as such a construction of “mad” design, as well as with the “circular” tendencies of the characters of the novel, as well as for this configuration as a sign of emptiness in the face of what Derrida terms as “the economy of death,” and the circulation of signs in the system of the text. As Fleishman notes, “the circle becomes in the novel the emblem of moral freedom,” while the triangle, as in the Δ of Verloc’s designation as “secret” agent, “becomes the sign of enclosure and secrecy” (*Conrad’s Politics* 197) as seen in the configuration of triangles of London’s streets, converging in the designations of settings with which the novel is concerned: the stationary shop, the Embassy, the Home Office, and Stevie’s name tag, a left-over scrap of fabric left from bombing attempt that Inspector Heat found in the heap of rags left with the remains of Stevie’s body. Conrad reiterates its shape as triangular because triangles are meeting points in thermal kinetic theory: triangles can lie within the range of circles as configurations indicative of range of the distribution of directions taken, arcs of directions considered, thereby determining how molecular motion occurs.

Stevie can be seen as what Katherine Hayles refers to as a strange attractor, “simply any point within an orbit that seems to attract the system to it” (*Chaos Bound* 147). In terms of informational value, Stevie’s eccentric circles are feedback loops, which are explained by Hayles as abstract images, models of the cyclical complex interconnections between culture, science, technology, and theory, all of which simultaneously feed each other’s cultures (*Chaos Bound* xiv). As Prigogine states, “science is not an ‘independent variable,’ but “an open system embedded in society and

linked to it by very dense feedback loops” of constantly recirculated information (xii). Stevie is an example of how even the most marginal points within such loops can influence the cultural contents of other circles, provided that their vicinities overlap at some point in their histories. Stevie’s “circles” of concentric and eccentric values, plotted according to the concentric circles of London, would look very much like the Henon Strange Attractor. in Figure 2.3.

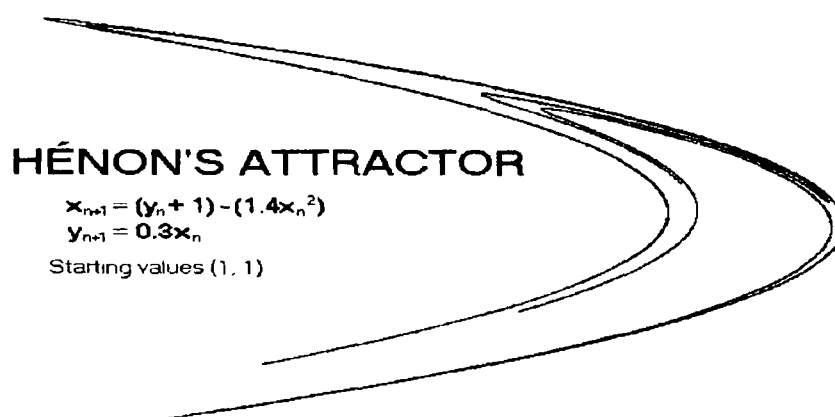


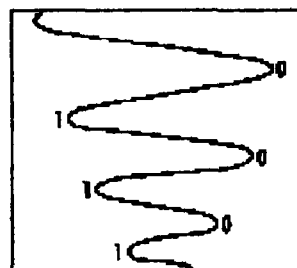
Figure 2.3. The Henon Strange Attractor (Weeks “Henon”)

This configuration demonstrates in its concentric circles the configurations that are isolated, in London’s social milieu, as well as the eccentric circles, like the group of anarchists, like Escher’s hyperbolic fish. The pattern of Stevie’s circles is a reification of London’s social circles, but also a self-referential device indicative of Conrad’s structuring of this novel, a technique of critique Ira Livingston describes has been done “proleptically” (130).⁵³

Stevie’s death is the drawing point for every action that follows. As a strange attractor, Stevie and his cyclical circles are parabolic, hyperbolic: they are eccentricities among other eccentricities within the corresponding circle of London society. Stevie’s

actions are contingent to Winnie's and Verloc's. Because Conrad constructs the novel within this series of flashbacks and flashforwards, I conclude that he constructed a phase space⁵⁴ for the novel in which the spaces occupied by these "oscillating" characters behave "as though the phase space with which they moved had been squeezed and then folded over," thereby creating "an extremely complex interleaving of very thin layers," which "carried on long enough, the layers approach infinite thinness, just as orbits in phase space have zero thickness," but where "each orbit remains distinct from every other" (Hayles, *Chaos Bound* 150).

Stevie oscillates between points of willful violence and passivity that mark the paradoxes of his character. Within Ira Livingston's estimation, the dialectic between polar states is exhibited in narrative as a model of change, where rupture or discontinuity occurs between stages of change in being, a developmental scenario that can be modeled as an "oscillation between extremes" (91-2). Figure 2.4 shows this "polarization" model as a coordination of rhetorical figures.



Polarization/Irony.

Figure 2.4. Ira Livingston's Model of "Oscillating" Polarization in Irony (92)
 In this model, "irony finds a cyclical *polarity*--the back-and-forth of an 'unresolvable dialectic'," which Livingston describes as a reiterative pattern of concentricity and eccentricity, as well as the ambiguity between conscious and unconscious states (93).

Stevie can be mild-mannered and considerate of the cabbie's horse or his sister, but he can also "explode" into a frenzy over what he perceives to be unjust. He sets out with Verloc to bomb Greenwich Observatory, but he never makes it to his goal. He cannot rationally decide on any one solution to the world's problems, but the idea that no solution exists, paradoxically, *is* the solution. In his movement from life to death, Stevie leaves behind evidence for this paradox, even though his death makes him an absent character.

In the space of the novel, even absence can be plotted geometrically. These points are bifurcation points in the action of the novel, as difference constituted in the form of the character of Stevie. Stevie's iteration can be graphed in delay coordinates, a natural delay time that reveals his character as "monotonically decreasing" in the time of the novel (Weeks, "Mutual Information"). The character of Stevie constitutes a form of consciousness as volume in the text who is defined by the initial conditions of the system of London in which he lives. "For a dissipative system, this volume will shrink as the system evolves in time," and "if the system is sensitive to initial conditions, the trajectories of the points [of the strange attractor body] will move apart in some directions, closer in others, but there will be a new shrinkage in volume" where "ultimately, all points will lie along a fine line of zero volume" ("Strange Attractors"). This "shrinkage" for Stevie means that all of his actions in the past, including his "fireworks" display in his employer's office, have led to the point in the novel when he blows himself up. Stevie is sensitive to the initial conditions of London's decay. Stevie as Henon attractor moves to an iteration of zero volume in this system, which can be plotted nevertheless. The plotting of points in Stevie's devolution reveals the pattern of delay of finality for Stevie in the storyline, which is not terminated until the story itself is at an end.

The “delay” in Stevie’s presence, as he moves from presence to absence, means processing of the novel’s time frames as a series of points that the audience is witnessing the process of a chaotic time series analysis, where Stevie is the one referential variant in the system that demonstrates the iterations of the given time series analyzed. Henon attractors work to model the non-linear dynamics of geological systems in particular, especially in terms of recursive detail in the paleontological evolution of humanity (“Paleontology and Fractals”). Stevie and his circles are associated as delays of equilibrium in the novel, where the circle combines image with representation, nature and culture, nature and technics, demonstrated through the deconstruction of Stevie as consciousness. The plot-points of Stevie’s demise mark him as the trace of individual consciousness in its reiterations, the relationship of the living to the dead through the spacial objective exterior, a presence/absence that “plays” at the problems of body and soul, which the whole history of ideology attempts to reduce and erase. The epoch of Stevie’s life in Conrad’s text marks the reification of a signifier of authorial intention on the nature of life, being and becoming as a representative part of the ironically perverse history of mankind, a reiteration of the process and processing of human life as it unravels and reweaves itself in the history of this novel.

As an attractor, Stevie is a translator of information between the microcosmic and macrocosmic levels of being in this novel, and the transformation of his body from living to dead is a story of mediation between these material states as a synecdoche for the universal dissipation of London itself. Stevie is an attractor in this system because of his fixed-point symmetry, which “has very many coupling points that transmit and magnify tiny fluctuations into large changes within its orbit” (Hayles, *Chaos Bound* 157). Stevie’s death, as the novel’s turning point, phase-changes the whole system of London because of

this tendency toward equilibrium, but more in terms of balance and a resolution for the problem of anarchy in London. Heat loses a secret agent and Vladimir is forced to duck back into the shadows, but a normal orderly state of affairs returns for London, despite the tragic consequences for Winnie. Had Verloc never taken Stevie with him to Greenwich, or even trusted him to carry the bomb, wide-scale change would have probably occurred due to a successful bombing of the Observatory, thereby affecting global politics at a deeper level, possibly leading to war and death on a far greater scale. Vital impetus decides the directions these characters take as they go out of life. The space of London is a matrix of possible directions for these characters to go, but as each action is chosen by a character, the number of directions in which the action can go is reduced, reducing possibility to probability. The space of the novel itself becomes a phase space in which the virtual realities of these characters are determined by Conrad's intentional plotting of their actions upon particular points in London's real history of the Greenwich bombing.

Prigogine defines this kind of phase space as a geometric representation of the trajectories of points in a three-dimensional space, where an evolution in time can be represented through an ensemble of points and their relationships (247). Using René Thom's catastrophe theory, Dominico Castrigiano and Sandra Hayes confirm Prigogine's theory according to what they refer to as "degenerate critical points" of functions that have codimensions (as in the binary polarization of hot and cold, for example), which follow a characteristic "unfolding" of potential, where "every degenerate critical point of a smooth function is unstable" (165), as in the "stable" London milieu. A "smooth" function means regular, gentle motion that is not jerky or upsetting. Whenever that "degenerate critical point" is "slightly perturbed by adding a small term [as when Stevie literally interprets Ossipon's and Yundt's argument in Chapter Three, in the parlour, and

in Chapter Eight with Stevie's encounter with the "Cab of Death"]," then "new critical points appear in the neighborhood of the original critical point, thereby reducing its degeneracy" (Castrigiano and Hayes 165).

For example, Stevie reacts in outrage to Yundt's suggestion of cannibalism, or when Stevie "irrationally" wants to take the cabbie and his horse to bed with him, and then, his chest swelling with "magnanimous indignation," he ends "by turning vicious" (169). As the characteristic "germ," the center of Conrad's organization in the tale's unfolding, Stevie's action generates the "deformation" of action, a bifurcation scenario also follows, confirming my theory of Stevie's "hyperbolic" function as this unfolding takes place. According to Castrigiano and Hayes, a variable transformation would then take place in the parameter of the unfolding; they confirm that this "deformation" of the unfolding is a standard literary term for the unfolding in a plot (Castrigiano and Hayes 167-68).

According to Figures 2.5 and 2.6 on the next page, this unfolding demonstrates a transformation of the entire parameter, the catastrophe surface, where the "saddle point" of the unfolding is the high point of the bifurcation (Castrigiano and Hayes 168), the story's climax. I showed earlier in Figure 2.1 that from a spherical center of a three-dimensional space, a number of directions may be taken; catastrophe theory clarifies this position to reveal that once one direction is taken, it subsequently affects and *reduces* the number of directions left to take. Stevie's "inductive" choice to carry the bomb acts is such a reduction, for Stevie believes he is involved in a humanitarian enterprise when he "helps" Verloc, reducing the scenario possibilities to one.

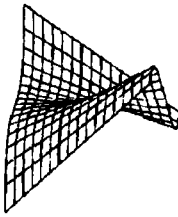


Figure 2.5. A visualization of a One-Parameter Unfolding of a “Germ” (Castrigiano and Hayes 166)

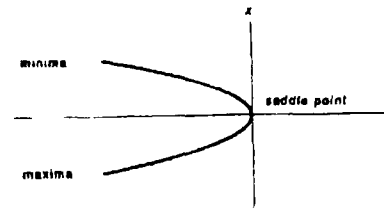


Figure 2.6. The “Saddle” Point Between a Minimal and a Maximal NonDegeneratePoint (Castrigiano and Hayes 167)

Winnie considers her plans for action, but sees only a blank wall, right before she stabs Verloc. Therefore, what occurs in Conrad’s novel is a scenario of what Castrigiano and Hayes refer to as “equivalent unfoldings,” where the isomorphic stratification between the classes serves as the parameter milieu of London, where the variables of the unfolding action “determine the state of the system” (Castrigiano and Hayes 166). Verloc is one such “germ” [he is referred to as having “arrived in London (like the influenza) from the Continent” (6), and Stevie’s “disease” of degeneracy, too, points to such a “deformation,” an eccentric to the concentric London bourgeois society. The social ramifications of this scenario as polarized between the bourgeois and the anarchists follow this “deformation,” as well. Conrad’s ensemble cast follows such an evolution, every persona as a point within the configurations of circles and triangles represented in its paradigm. Such points are constructions, but their trajectories in that phase space of the novel “correspond” to a description of “natural” behavior, according to Prigogine. The characters in the novel are intended to represent real *potential* action, considering that Conrad used the real-life incident of the bombing attempt on Greenwich, constructing the phase space of Verloc and Winnie’s family to represent an exaggeration of that incident, making it a kind of

legend. As Clarke notes, this oscillation of characters in their trajectories is an oscillation between material states (from solid to fluid or vapor, for example), functioning as a boundary medium, thereby functioning to emphasize “the tentativeness of given appearances” (*Allegories* 104). Such a phase transition, as boundary intermediary, is characteristically correspondent to mythologies of bodily metamorphosis.

Stevie’s body does not transform into an improved living form, but degenerates, going from living to dead tissue, where his spirit is the vaporous memory of the universal eventual state of every mortal body. Stevie will not get the chance to transform his consciousness because he has nothing to transform: his mind does not possess the capacity to improve.⁵⁵ Conrad turns around the isolation of the individual (Stevie, Verloc, and Winnie) to reveal the isolation and deaths of this family as necessary in order to establish a sense of social equilibrium in the particular milieu of this novel. Stevie’s transformation is a gradual movement from a state of thermodynamic entropy to informational entropy, a movement from exterior to interior degeneration.

Stevie’s body reveals how dissipation works in itself to communicate, but Stevie as a strange attractor works toward equilibrium (heat death) for a microcosmic level of bifurcating points for himself, Winnie, and Verloc, rather than at the macrocosmic level at which Vladimir was aiming. As an attractor, Stevie is a medium of information between the microcosmic and macrocosmic levels of being in this novel, and the transformation of his body from living to dead is a story of mediation between these material states as a synecdoche for the universal dissipation of London itself. The memory of Stevie for Winnie is a feedback loop of identification of values. Hayles links feedback loops to her analysis of strange attractor behavior, where “the form is considered to be *encoded within the information* the system produces” (*Chaos Bound* 103).⁵⁶ As Prigogine notes, every

point in such a phase space “represents the *maximum knowledge* we can have about a system” (248). Having reached a maximum level of information, Stevie must recede in Conrad’s text, but he does not have to disappear altogether until all memory of him is also obliterated. Stevie’s body, like the body of the textual figure of speech, is an absence that defies definition, the transcendently circular pattern of London’s retarded economy, a synecdoche for Conrad’s circulation of London’s energies of opposing forces. Within Rudolf Clausius’ definition of “entropy,” the absence of tropes, the deaths of Stevie, Verloc, and Winnie follow a general pattern of psychological and material affects in the novel, as a division of internal and external work “accomplished by heat in the change of state of a body” according to mechanical disintegration (Smith 259).

Hayles notes that any oscillator that contains a cycle can be a strange attractor, such as the double rhythm of the human heart (*Chaos Bound* 147). Indeed, Conrad often uses the human heart as a central symbol of morality in his novels, especially in this novel and in *Heart of Darkness*. Verloc’s heart is the pivotal strange attractor for Winnie after she kills him, as she mistakes his dying heart for the ticking of a clock. “When the heart is disturbed (provided the disruption is not too massive), it returns to this characteristic rhythm even if it begins from a different place,” as “the cycle takes place within well-defined boundaries that limit the extent of variations within any given cycle” (*Chaos Bound* 147). When dead bodies take on anthropomorphic characteristics, they are *perceived* as reversing the dialectic of subject and object dichotomy, where objects take on talismanic power and substance. The clock, as the sign of time, also takes on anthropomorphic qualities. The ticking clock in Verloc’s shop stands as a reminder to Verloc of time running out for his bombing attempt, but later, takes on the more sinister role as witness of Verloc’s very murder. The confusion that Winnie experiences as she

automatically looks up at the clock to notice that it has stopped does not sink in until she notices that the blood dripping from Verloc's body to the floor is what is producing the ticking sound she hears. Verloc's dead heart, which was living only moments before, is dead yet pumping out Verloc's life blood like an "insane clock," the reminder and sign in the novel for Winnie that her time, too, has run out. This metonymy is a "confusion" of anthropomorphic personification of living and dead objects, a technique that Conrad uses to juxtapose and compare the similarities and differences between different states of being and becoming. Conrad does an admirable job of portraying this shifting of states of being to states of becoming, especially when Stevie is blown up by the Professor's bomb. His spirit is seen in Winnie's face when she kills Verloc, so that his memory preserves his spirit as part of Conrad's evolution/degeneration theme. The heart, as symbol, has always represented the seat of ethical and emotional consciousness in Western culture. Both the Professor and Ossipon are stymied by the paradox surrounding the problem of transforming the consciousness of mankind. Neither provides a solution to this problem because the cycle of life includes within its matrix mortality, caused by the effects of time, which neither of these men can escape.

As Stone notes, "agency is always grounded in a physical body" (400). The fragmentation of Stevie leaves a discursive trace for Heat to follow in the form of the triangular piece of name-label from his jacket.⁵⁷ Fragmentation is Stevie's indirect choice, since he believes that he is making a "humanitarian" effort. During the incident with the night cabbie and the horse in Chapter Eight, we see that Stevie felt that injustice ought to be punished "with great severity" (172). Unfortunately, time "punishes" Stevie instead. Stevie's body, like the bodies of Verloc and Winnie, demonstrate how dissipation works in itself to communicate, but Stevie the strange attractor works toward equilibrium (heat

death) for a microcosmic level of bifurcating points for himself, Winnie, and Verloc, rather than at the macrocosmic level at which Vladimir was aiming.

Stevie, as caricature of the trace⁵⁸ of Conrad's ethos in the text, constitutes the universal character of subjectivity versus objectivity. Death for Stevie marks a transitional phase that brings forward the sequence of actions that follow in the text, marking Stevie's absence as a presence in itself (an absolute presence for Conrad's text), as well as showing the divisions and discontinuity of sequential differences posed against each other in the text. One can see these intersections in the spaces occupied by Verloc, Winnie, Stevie, and the rest of the characters in this novel; they are not incidental, but conscious constructions made by Conrad for the purpose of revealing the moral of his story.

Tropes demonstrate recursive symmetries between scale levels in space by demonstrating their symmetries over and over in the paradigms of literature; too, the "coupling" that takes place accounts for the double nature of the trope that connect their different levels of meaning. As Hayles states, if "at any one of these coupling points, minute fluctuations can cause the flow to evolve differently, so that it is impossible to predict how the system will behave" (*Chaos Bound* 13), then the production of these tropes, set in their different settings of time and place, dependent upon their historical, social, and cultural context, will also be unpredictable, much less once these "systems" are out of the hands of the author and into those of the reader. Literary artifacts are not like stationary objects because their matrices are constantly in play in time and space. Their sensitivity to their initial conditions guarantees such fluctuation. Thus, the literary artifact reveals itself as a feedback mechanism that creates loops of meaning in which the output (production) of meanings feeds back into the literary system as input. Literary systems can thus be both chaotic *and* deterministic.

Conrad's impressionistic technique reveals that his characters have low melting points, as their colors slide easily from the vitality of living beings into the deadness of lifeless things, and back again, all within the subjective perspective of figurative imagery. Conrad chose two interchangeable metaphors that are thermodynamic and thus, chaotic: the human body and the bomb. Conrad indicates that the human being is the initiator of the bomb's construction and detonation; thus, people can be considered as "time bombs." The human body, as dissipative structure, must be considered here as a chaotic entity which exists in that state opposed to equilibrium (death) and which fluctuates nonlinearly according to its immediate circumstances and environment. The human body detonates according to its biological clock, but can be set off prematurely under certain conditions. The bifurcation point of the novel occurs with Stevie's death. Human bombs (the Professor) make artificial bombs, which can be detonated at will, or by eventual accident, in the case of Stevie. However, Verloc's foolish decision to send Stevie to the Observatory sets off a whole chain of effects, eventually resulting in Verloc's death at the hands of his irate wife, Winnie. Conrad exhibits his anarchists using bombs in order to suggest contemporary social expression of thermodynamic disintegration; these anarchists are themselves intelligent beings intent upon their own brands of order, orders which go awry at the most inopportune times.

Core Meltdown in Londontown: From Thermodynamic
to Informational Entropy in *The Secret Agent*

According to Jeremy Hawthorn, "Conrad on more than one occasion compares words to bullets," and in one letter to Edward Garnett, made reference to the "explosive" potential of words: "Where do you think...the short and vivid flash of which I have been

boasting to you came from? Why! From your words, words, words. They exploded like stored powder barrels--... . An explosion is the most lasting thing in the universe. It leaves disorder, remembrance, room to move, a clear space” (*Letters from Conrad* 79, qtd. in Hawthorn 84). Indeed, Conrad was aware of the power of words and the physical power of explosions, a metaphor that he applied in *The Informer* as well as to *The Secret Agent*. Conrad particularly seemed in awe of the new changes that Modern times were bringing, as an air of pessimism hung over London. As Peter Nicholls relates, “the political sphere seems to rigidify into a ritual ‘allegory’ of social process” (24).⁵⁹ This political “circle” concerns a group of anarchists⁶⁰ connected to the bombing attempt of Greenwich Observatory, which, as I noted earlier, derived from the real-life incident of 1894. Conrad’s London is not London in reality, but a late nineteenth-century representation of London where an orderly world is suffering entropic degradation, yet still plugging away despite the political chaos that swells just beneath its polished surface. Conrad shows how seemingly incidental relationships between these anarchists and others affect the outcome of this story, and why the real “secret agents” of the story are those who are not political anarchists, per se, as defined by the political movement, but individuals who are hopelessly alienated by their own frustrating circumstances. These “secret” agents are symbols for London’s own dissolution, and how the poor and the weak are sacrificed for the greater good of the social mechanism of the state, as the Professor prescribes in Chapter 13. Mechanical action produces mechanical reaction, and when thermodynamics become involved, the result escalates into vital energies transforming bodies.

Verloc’s actions produce chaos rather than anarchy: his local disorders create order at a larger level for London, leveled out by the equilibrium produced by Stevie’s

death. The other anarchists in the novel are initiators of action, as well: the Professor is the builder of the Greenwich bomb, so his action of creating the bomb enables Stevie's death. The Professor appears to be the one apparent example of being a human time bomb, since he always carries a bomb strapped to himself; the Professor's personal suicide bomb is wired in such a way that should the Professor be apprehended, he can blow up himself and his potential apprehender simply by depressing the India rubber ball detonator in his pocket. After the bombing, the Professor meets Chief Inspector Heat in an alleyway. The police chief is investigating Stevie's death in the Greenwich attempt; the meeting is accidental, however, and neither man wants to really disrupt the balanced relationship between the anarchists and the bourgeois police, the result of their equal tensions. Heat puts "the heat" on the Professor, but finds the Professor's untiring coldness, that extreme example of heat death as the restorer of "equilibrium," is resistant to Heat's influence. Equilibrium from the scientific point-of-view means death for all life forms, but in Conrad's novel, it also refers ironically to the restoration of social order.

Even Heat's name is a signifier of thermodynamic conservation of the energy of life. Only the Professor seems intent on complete anarchy, through a complete expenditure of energy through dissipation, since he wishes to commit genocide on a worldwide scale. The Professor is not interested in preserving any dregs of the old society at all; ironically, Stevie is the only one capable of any real moral feeling for the world at large. Ironically, in the end, the Professor survives and Stevie is dead. The Professor merely *threatens* Heat, instead of blowing up himself and Heat, because he, like the other anarchists, have intellectual conviction, but no real intention of blowing up anybody, especially himself. As Ossipon points out, at the end of the novel the Professor is "crying" for time. In

contrast, Stevie is the image of his true thermodynamic tendencies throughout the novel, revealing his entire history as moving toward the point and means of his death.

Stevie is first described as “difficult to dispose of,” which begs the question of why he needs to be disposed of (8). In the relation of one particular incident that occurred at the age of fourteen, Stevie lost a job as an office boy because “he was discovered one foggy afternoon, in his chief’s absence, busy letting off fireworks on the staircase,” setting off “in quick succession a set of fierce rockets, angry catherine wheels, loudly exploding squibs,” thereby setting off a panic in his office building (9). The motive for Stevie’s apparent histrionics occurred because “two other office-boys in the building had worked upon his feelings by tales of injustice and oppression till they had wrought his compassion to the pitch of that frenzy (9-10). Stevie is “set off” once again by the vivid talk between Ossipon and Karl Yundt. When he becomes the carrier of the bomb, he becomes the Professor “tool,” an “intelligent detonator,” just like the Professor’s India rubber ball with its hookup to the flask in the Professor’s pocket, “partly mechanical, partly chemical” (66), much like the varnish can bomb he carries to the Observatory. Stevie is the only one capable of instantaneous detonation, for only he trips on the root that causes him to fall and blow himself up at Greenwich, “a variable and yet perfectly precise mechanism,” “a really intelligent detonator” (67);⁶¹ ironically, he is not “intelligent,” in the sense of being able to differentiate the danger of his situation as the Professor is. Stevie is simply a more intelligent mechanism than the one the Professor holds in his hand, since he is able to detonate immediately rather than within the twenty seconds the Professor’s flask takes to blow up, from the time the Professor presses the ball to contact with the flask. The Professor’s bombs are not “foolproof,” as Stevie demonstrates.

Stevie’s “degeneracy,” as a synecdoche for London, is an ironic scientific diagnosis of London’s ills.⁶² Ossipon jumps to the conclusion that Stevie is a “degenerate” based upon his hasty generalizations of Cesare Lombroso’s theories of criminal behavior as it is connected to anatomy. This “degeneracy” also marks the critical “germ” and “germination” of Stevie as figure of catastrophe. This scientization in Conrad’s novel is biologized in the evolution and degeneration of a family, which is compared to the larger scale of the “family” of man, configured in London. When Winnie’s mother commits herself to an almshouse, “She reflected stoically that everything decays, wears out, in this world,” noting her own experience as a wife and widow (161). While this scene in Chapter Eight is the last she is mentioned in the novel, her small part is essential for Conrad’s central message in the novel: everything degrades eventually, which is why one has to be careful not to devolve into either complete apathy (as the bourgeois do) or to too much passionate resistance to the status quo (as the anarchists do).

If Stevie is a synecdoche for London, then his “degeneracy” must be the diagnosis for London, as well, especially in scenes where human beings are reduced to animals or meat.⁶³ Hawthorn notes that this is the “powerful symbol of a process which the novel presents as deeply embedded in the society with which it is concerned...the process...of alienation” (74). Objectifications of various kinds in this novel allow the reader to disengage from the characters long enough to see their mortal predicaments, in addition to Conrad’s own position in relation to his narrative. In this novel, associative and dissociative correspondences are key to demonstrating how the physical and metaphysical overlap, in which the physical become symbolic for interior motive.

As Hunter notes, confirming Freud’s comments on condensation at work in words with double meaning, Conrad’s coupling of normally incompatible words (catachretic,

synecdochal, metaphorical and hyperbolic tropes) renders a blackly comic effect of disjunction and alienation between audience and the figure observed through his use of “structural irony” (155), much in the manner of a coroner examining a dead body. For Conrad, the dead body is representative of the artifactuality of words in texts, and their very disjunctiveness is an invitation to examine them as metonymic figures, symbols that resonate throughout the story as major signs of an allegory of mock-epic proportions. Dead bodies become “alive” and living bodies become dead all as a matter of natural course of the changing of forms. This metonymy links together one history to another in the overall layout of the novel to form a local history of events involving several groups of people, who normally would have little or nothing to do with each other except for this set of incredible circumstances. Contradiction between perspective of one’s own duration and the flow of real time comes about through the physical manifestations of events in the story. Various tropes, both organic and inorganic, convey this alienation effect by way of their juxtaposed couplings in the novel, which we can see, like the characters themselves, as coupling points around which the social degradation of London revolves. The fusion of the inanimate with the animate marks the tragic inevitability of the alienation of these characters, which we see as their conscious and unconscious reactions to the Victorian mechanisms of social institutions (marriage, science, and government) and their own roles within and in relation to these institutions. The theme of alienation is implicit within the configurations of the circle and the triangle in the novel, explaining how action in the novel further alienates these characters. The question of how action leads in this direction brings me to discuss the configuration of the circle as it concerns not only its associations to the sequence of action committed by characters in the novel, but what it means for Conrad’s ethos, and finally, what it means for his chosen aesthetic philosophies.

Conrad's ironic scientization of Lombroso's theories in Ossipon's interpretation of degeneracy is comparable in its alienating "objectivity" to the same kind of social Darwinism practiced by Sir Ethelred, the "Great Personage" who is Conrad's satirical portrait of Sir William Harcourt, the Home Secretary. when he compares men to fish in a generalizing comparison of evolution of species. Verloc is variously described as a "pig," an "animal," and a "soft kind of rock" (13), and yet later, as he is confronted by Winnie with Stevie's death, Conrad notes that "a man isn't made of stone" (259). Winnie shifts from having a head like stone, to having a face "no longer stony" (260). States of being slide from one form to another in Conrad's imagery in order to show that the spaces occupied by these characters change as time moves forward. The "meat" of the body becomes as lifeless as stone, breaking down into dust. Notice that Winnie and Stevie are always "dusting" in the shop. In Chapter 9, even though Stevie is trying to make himself useful by dusting, Verloc thinks that the boy is "useless," even though Winnie assures him that Stevie "would go through fire for you" (183-84). Indeed, Stevie proves his worth as a sign of degeneration by literally "going through fire" for Verloc. Stevie is the "butcher's boy," Winnie's boy, for she will butcher Verloc in Stevie's memory. As Fleishman notes, "all the images of the dead are of dismemberment into organic flesh or inorganic things" (Fleishman, *Conrad's Politics* 21-22). Theses metaphors shift like the sand-like movement of the masses that the Professor fears so much. As Bruce Johnson argues, the blurring between the "organic" and "inorganic" matter of the novel occurs to reveal the violation of the border between consciousness and the physical body (58-9); actually, everything mentioned here is organic (carbon-based matter), in the true chemical sense of the word. As Eric Zencey argues, supplementing Stephen Pepper's theories on metaphysical archetypes with his own argument, the root metaphor suggests an ideal

typology, cognitive structures meant to illustrate “paradigm cases” (193), problematic because of this “sliding” back and forth between states indicative in Conrad’s text. As the dialogue between Verloc and Winnie in Chapter 11 attest, neither one can see from the perspective of the other, and while their dialogue hints at what is going to happen in the narrative, in a dramatically ironic way, Conrad keeps their motives “secret” from each other in order to foster this sense of alienation.

The disjunctive polarized energies of bourgeois and anarchist parties in Conrad’s London create the economic allegories that circulate and recirculate the stew of London’s reservoir of energies,⁶⁴ a politicized space that is subject to the effects of an accelerated entropy. Within the emptiness of concentric circles many things can be contained, a closed system that infinitely reiterates itself. The figure itself was originally divided into 360 equal parts for astronomical instruments, the number of days in a year (“Circle”), which proves its structure is in itself is a measurement superimposed by man. For Conrad’s purposes, the circle provides a figure for the crucial series of circular patterns for a reiteration of codes, structural for his narrative (the circulation between character portrayal and the bending of time sequence that occurs because of it). The intersection of Stevie’s circles imply the intersection of human lives, sometimes concentric, sometimes eccentric, but always reiterative. The social evolution implied by Ossipon’s reference to Lombroso, as well as Sir Ethelred’s comparison of men to fish, demonstrates that these circles within circles are part of nature’s circulation of energies in concentric reservoirs. These reservoirs of energy circulate through their capital, their quantities of energy, revealed in the bourgeois capitalization of the institution of time. As Michel Serres asserts, the world is defined in terms of its geometric and differential properties, the center of which are the movements between currents of hot and cold bodies (*Hermes* 35).

Circulation is reflected within circles as symbols for cosmic and local cycling, the cycling of the planets (especially the local cycling of earth's processing) as concentrations of organized energies. Certainly, Stevie's quick "meltdown" leads to his untimely heat death, but it is a necessary sacrifice of one part of London for the good of the whole. As Prigogine explains, thermodynamics express both the negative impossibility of the reversal of certain processes (the flow of heat always going from hot to cold, never vice versa) and the positive possibilities for reconstruction of order, where "the second [element] is a consequence of the first," since "entropy behaves as an attractor for isolated systems" (Prigogine 122). Conrad is not concerned for cosmic processes, but rather how individuals figure in the evolution of history. Stevie's history is a "pivot point of history" that is not *perfectly* cyclical, but similar to events and things in the past. The Prime Meridian is one example of such a circulating discourse, a linguistic symbol that bridges the imaginary and the real, a construct that heuristically maps the world of these anarchists, as well as Conrad's own method for conceiving it.

Stevie becomes a part of Winnie's memory,⁶⁵ which sets up a pattern of redundancy for London's milieu in that Stevie's death sends the anarchist family into the great beyond, yet stabilizes London's shaky political situation. Stevie's "noise" as a disruption of clarity occurs in his anarchist disruption of London's political setting, which dissipates (to a degree) when he dissipates. Stevie is a symbol for ambiguity that increases his entropy through his choice to follow Verloc and do his bidding, and his function as a transmitter for Conrad's code is made ideal through his own ambiguous position as defender of the poor and oppressed (the cabman and his horse in Chapter Eight, for example) as compared to his "noisy" behavior at this outrage. His "explosive" temperament, as displayed in his use of fireworks to express his displeasure at injustice,

finally results in the incident at Greenwich Park. Stevie is unable to moderate his behavior within “acceptable” Victorian bourgeois terms, so his entropy increases to the point of explosion, both in temperament and body, from inside to outside and vice-versa when his image shows in Winnie’s face. This is part of the oscillation effect of Conrad’s dark irony, part of the swing to-and-fro from one extreme of being to the other extreme of not-being.

Stevie’s body is an ambiguous code, linked with his circles, the Prime Meridian, fireworks, time, and his role in anarchist politics vs. bourgeois politics (his questioning Winnie about the ambiguous status of police work in Chapter Eight, for example). Stevie’s body shifts between absence to presence of consciousness and between body to ghost, becoming delayed as a code. According to Weaver, as entropy increases the rate at which transmission of a code is optimized, so does the process of coding delay⁶⁶ (18). In Bruce Clarke’s words, “entropy is an isomorph of allegory, in that the concept of entropy adds irreversible time to the equation of real physical systems” (“Allegories” 75). As the arrangement of Stevie as a body is blown apart, so is Verloc’s family unit, maximal in entropy at the local level, minimal and redundant at the global/cosmic level/cultural level. Conrad’s arrangement of this novel is an ensemble, where Stevie’s body becomes a metaphor for the entropic tendencies of the political faction of anarchists there, the “trace” in Conrad’s language of an embedded message delayed by its own complexities, where entropy becomes a language of language (Weaver 28), a metanarrative of Conrad’s own allegorical process of structuring meaning.

Change in systems happens despite human intervention, but the insertion of human vital impetus can speed up this process in either good or bad ways, depending upon initial conditions of the system.⁶⁷ Despite this sense of alienation, everything Verloc does touches the people in his life. Winnie and Stevie are confined to a closed system within

their family, however, because they have no power to change things in their own lives: their entropy increases quicker in the novel because they are confined to the ideal enclosure of the institution of Verloc's marriage to Winnie. Because of the unusual circumstances into which Vladimir thrusts Verloc, Stevie's death touches off Verloc's and Winnie's deaths at a higher rate of speed than usual. Stevie's death reveals that while entropy comes quickly to him, irreversibly transforming himself and his family, his chemical action (the combination of human flesh dissipated by the chemical bomb) provides the catalyst for transformation of the closed system of Verloc's family and London. As Brillouin states, the earth itself is not a closed system [just as London is not completely closed]: "life and living organisms represent a most important type of catalysis," producing both positive and negative effects; in order to understand life, a quantum mechanics of such systems would have to be interpreted statistically, where the adult individual is seen as a chemical system in an unstable equilibrium/environment (97-98). Stevie as living being is a contradiction, since outwardly, he is acting as a catalyst, while his body, as an unstable system, is only "held together by some sort of anticatalyst" (Brillouin 98). As Prigogine affirms, "chemical equilibrium is... a typical example of an 'attractor' state," for "whatever its initial chemical composition, the system spontaneously reaches this final state, where the forward and reverse reactions compensate one another statistically so that there is no longer any overall variation in the concentrations [of reservoirs]"; in fact, "if left to itself, a system in which chemical reactions occur tends toward a state of chemical equilibrium" (Prigogine 133). Going back to Castrigiano's and Haye's catastrophe theory and Livingston's polarization theory of irony, I can extrapolate this "anticatalyst" as the isomorphic polarization of the mechanist/anarchist stratification of London society, where London's "equilibrium" lies in

a catastrophe set, an accident waiting to happen. Stevie's "function" in this system as a "degenerate" in this set(ting) may be disquieting to the likes of Ossipon, but in the novel's set of equivalencies where action is induced by a hysteresis (a dependence on the history of London, specifically), one set of equivalence relations emerges of all the possible scenarios of a given "germ" as the center point from which action is derived (Castrigiano and Hayes 49, 171). The "germ" as disease, Stevie's "degeneracy," acts as such a catalyst for the induced unfolding of action in the novel.

Using the example of poison as catalyst and a drug that slows down a disease as anticatalyst, Brillouin concludes that the anticatalyst merely delays death by alleviating the symptoms of one particular disease; it does not cure death or the inevitable dissipation of the body. Stevie's body is transformed by chemical kinetics, becoming a Ossipon's own diagnosis of degeneracy for Stevie is a diagnosis that does not cure Stevie or even act as a catalyst; as the Professor states, only the shedding of blood has any effect as a catalyst for change (304). Verloc's action, taken at Vladimir's behest, acts as such a catalyst, and Stevie's so-called "degeneracy" is the cure for Verloc as potential "germ," described as having "arrived in London (like the influenza) from the Continent" (6). Only Stevie's efforts "cure" Verloc's "unhygienic" sloth and "inertness" (12). The Professor looks down on Ossipon's desire to "cure" humanity and Michaelis' "dreams of a world like a beautiful and cheery hospital" (305). Conrad ironically concludes that the use of science and scientific diagnosis to designate the objective standard of "degeneracy" was merely one more way for the powerful to impose and legitimize their own prejudices, not a way to "cure" the diseases of mind or body of one individual or even of an entire world population.⁶⁸ As Frederick Karl notes, while it is obvious that Conrad was aware of Lombroso's theories of degeneracy, he was also very likely influenced in the writing of

this particular novel by Max Nordau's *Degeneration* (1895) and Han Gross' essay "Degeneration and Deportation" of 1905, which recommended the deportation of such "degenerates" as criminals in order to save and purify society (Karl 626, 728). Karl also notes that Conrad was also critical of F. Marinetti's policies on such "modern" efficiencies at the expense of humanity, so that we may understand that while Conrad was aware of Nordau's book and Gross' essay, Conrad was not necessarily sympathetic to their extremities (728).

Conrad conflates time and thermodynamic entropy to imply a general systemic chaotic degeneration in London, much in the same way that other Victorians and Edwardians tended to graft political anarchy onto cosmic chaos. While Conrad intuited the necessity of a thermodynamic meltdown in the cosmos that is somehow "tripwired" mechanistically, he seems hesitant to let go of cultural orders like institutions. The anarchism of Conrad's characters is not exactly in alignment with chaos theory, except in that the terms of "anarchy" in a general sense are opposed to Conrad's more specific use of "anarchism;" these terms are often seen as interchangeable, when in fact, they are not. The anarchists are personifications of systemic chaos,⁶⁹ through which chaos works for the self-organization of the local systemization of London's culture, which ends with the Victorian epoch and begins the new Modern one. They are parts of the holistic system of London, each essential to its construction. Conrad's characters are symbols of mock-histories being told. Within Clarke's view of the anarchist "sublime" as a metonymic construction, "human affects are ideological signs, and...the anarchist sublime is itself a mobile tropic configuration of equations and substitutions, metonymies and synecdoches" where a semiotics of anarchism functions to "criticize all cultural systems for evidences of ideological graft" ("A Semiotics" 3-5). In Conrad's novel, this criticism takes form in the

circle of anarchists, with Stevie their own “secret” agent of the development of their history. The mock history of the London anarchists functions to reify a “cult of individualism” in literary Modernism, as well as in Victorian and Modernist sensibilities, where “the abiding strength of the anarchist configuration is that it contains paradoxes and pitfalls” (Clarke, “A Semiotics” 5). Verloc, Winnie, and Stevie all qualify as anarchist figures, doomed in inconsistencies, yet as noble as they are degraded in body and spirit. In the accord between the metonymic part (the bodies of these anarchists as symbols of Conrad’s text) to the whole (London, the novel), their degradations represent entropy, as “meaning may be shown to be analogous to one of the quantities on which the entropy of a thermodynamic ensemble depends” (Weaver 28). These characters are part-to-whole tropes of time which allow the audience to see the local effects of some unusual circumstances unfolding as such a mock-history, an allegory. This novel is an allegory of such transformations, where the “heat” generated by the anarchists’ bombing attempt on Greenwich eventually brings about the equilibrium (heat death) of a family of anarchists, thereby restoring order, albeit at the expense of this family’s lives. Physical characteristics of such as hotness or coldness designate interior personality characteristics. Stevie’s “explosive” personality is a synecdoche of his literal explosion in Greenwich Park, and as the audience is gradually let in on his past history (the setting off of fireworks in his employer’s office, grabbing a carving knife and waving it around after reading about the injustices in the German military), these tropes must be understood as allegories of political chaos. Livingston’s explanation of irony as a cyclical polarity finds its figure in Stevie, whose wild swings of personality enable the audience to see a well-rounded range of the human at his most noble and most degrading moments of being. This figure finds its thermodynamic equivalent as a heat engine, for as C.J. Adkins notes, the efficiency of a

real heat engine (like the human body) will always be less than that of an ideal one capable of reversible operations; an ideal heat engine (the perfect circle or sphere as an image of transcendence of irreversibility) would demonstrate the highest and lowest extremes of energy reservoirs (temperature) involved in a cycle (109), especially a life cycle, thereby also giving the maximum values of that cycle. Irony reflects the polarized effects of Stevie's states of being. Conrad is writing in the Thomsonian vein of seeing such degradation as wasteful, socially regressive. Conrad is constantly and consistently reminding his audience through Verloc and Winnie that time is an arrow that eternally returns to find its mark. Typological allegories within other allegories are devices that eventually refer back to the reified narrative as a whole as such a return. Therefore, not only is this novel allegorical, but it contains models meant to demonstrate structure of the novel itself, as well as thematic consistency.

Time as a model is scientized by Conrad so that he can demonstrate a global theme at a local level of linguistic, political, social and cultural play, and it is conflated with the circle as symbol for time's natural reiterative patterns of organization and dissolution. The circle, as a scientific model, is a device that straddles the extent of narrative heuristics of these works I am investigating, and is one of Conrad's major symbols indicative of wide-scale circulation within these narratives as a device that unifies compositional purpose (Conrad's artistic ethos embedded in his logos) with his thematic focus (his social ethos). This model contains tropes of various sorts to establish both its credibility and its structural unity. Hence, Conrad shows that language, like the bodies inscribed by language, also degrades. Such linguistic degradation occurs through Conrad's many scientisms in the novel, but the most significant is Ossipan's use of the word "degenerate" to describe Stevie. Even Freud criticized the use of this generalization as a diagnosis that

tends to be applied too readily by psychologists and laypersons alike in popular culture. As Chamberlin warns, the term “degeneration”⁷⁰ was convenient, a metonymy, and carries with it “a kind of magical significance conjuring up forces and processes which the word did not make that much more comprehensible” (“Images” 266). Ironically, Stevie is the degenerate, as well as the moral heart of the story, who is the only one able to sum up mankind’s situation in words in the very heart of the story: it is a “Bad world for poor people” (161). However, Stevie is also able to recognize some good things that come out of such circumstances. “Like the rest of mankind, perplexed by the mystery of the universe, he had his moments of consoling trust in the organized powers of the earth” (172). Even this reassurance is taken away from Stevie, when he suggests the police as such an “organizing” force, but Winnie states bluntly that “the police aren’t for that” (172). The mystery of how the local social world is organized by the larger cosmic one continues to mystify the boy, but it becomes apparent through the dramatically polarized irony of the story’s situations.

Thermodynamic dissolution connects Conrad’s narrative time and its events. Conrad’s time and space is reversible, yet he must somehow emphasize that the events he is portraying are irreversible in their consequences, a problem of narrative sequencing. At the level of phenomenal objects, time is irreversible. Narrative time reveals itself to be reversible, and only at the level of the author/creator’s manipulations of the text. Basing his novel on actual facts, Conrad reveals how such strange circumstances can unfold in an irreversible manner, while demonstrating the value of reversible orders in narrative plotting. Conrad’s use of narrative flashbacks enables him to reveal these segments in time out of order, just as a reversible time would allow the time traveler to go back in time. Each chapter reveals that events occur in synchronicity, either at the same time or

else revealed by a narrator whose memory is or is not sequentially unraveling. As the narrative unravels, the acts of Verloc, Stevie, and Winnie cannot be undone, and death comes sooner than later for these characters, all because one anarchist chose to send his retarded brother-in-law to do a job that he should have done himself, despite Verloc's foolish claim that Stevie's death is as much Winnie's fault as his. Nobody tied him up and forced him to send Stevie to the Observatory with the bomb; it was Verloc's doing and undoing. The choices of these characters are all part of a process of entropy, where time becomes more than a mere image. Entropy becomes a response to the process of mechanization in the Modern era, a self-consciousness of changes in society and culture that are irreversible but necessary for the organization of new paradigms (Zencey 188). Entropy becomes the root metaphor for the self-organizing transformation of culture itself as the metaphysical archetype of Conrad's novel as an exposition of a world theory of chaos and order.

Chaos, as compared to anarchism, is much more generally applicable to local systems than global ones. Deterministic models of chaos produce behavior that seems random, but which contain fine structure, eventually giving rise to cosmically or globally significant effects. Conrad's novel reveals that while the anarchists produce chaotic, accidental behavior at the local level, their accidents and abnormalities actually produce order on a large scale, rather than falling into total chaos in the general sense. Time's irreversibility works to restore order at the global level for the systems with which it is involved, even if its local effects seem to be devastating at the individual level. Porush states that Prigogine's term "dissipative structures" is more accurate than other dynamic models for these local level self-organizing effects of chaos, because Prigogine's model focuses "on the dynamic system which undergoes the sudden transformation from

apparently chaotic to increasingly ordered on the other side of the bifurcation point” and is “not only possible but likely to arise” (59) out of this chaotic series of interactions between people and their local worlds. The dissipative structure of London as milieu is revealed as an open system in direct opposition to the ideologically closed systems that appear to hold its organization together, such as institutions like science, government, or marriage. Irreversible local effects of thermodynamic entropy occur when small local disturbances change the stasis of London’s everyday events, bringing about three deaths that would not have otherwise occurred except for this bifurcation point.

London is an isolated system in some ways, but as the invention of the Prime Meridian proves, London’s informational “progress” is not shared by the entire world, as shown by the political unrest of Moscow and the actions and reactions of the anarchists. Degeneracy was often a theme applied to whole social systems. Conrad, however, appeared to have a very mature and developed sense of the danger of such typology. Despite Winnie’s tragedy and Ossipon’s spin into depression, Conrad’s ending holds hope for London, since it does not end with a catastrophe (such as what would have happened had Greenwich been bombed). Because it does not, Conrad’s novel follows a modern view of progress, meaning that London gains its balance at the expense of the deaths of Stevie, Winnie, and Verloc, offering a hope for re-directing lost energy into other forms, to avoid the “sin” of dissipation (Smith 101). Conrad achieves this re-direction of energies lost by Martial Bourdin by channeling it into the machinery of his fiction. The loss of heat in the deaths of his characters provides an informational compensation, a conversion of their heat into his work, a recycling of the economy of nature into the abstract form of his fiction, progressively transforming death into hope.

The chemical thermodynamics of Bourdin's body is changed into codes for Conrad's purposes, extrapolating his tale from the real events of Bourdin's case. Conrad implies that he was aware of how easily constructed order works or does not work as planned. Dissipation at local levels still may or may not work toward equilibrium at the global level; much depends on how many ripples occur between those bifurcation points and the conditions that surround them. Time and space cannot remain outside of practical application; they are subject to political, social, and cultural manipulation, since they were constructed with those purposes in mind. As Andreach implies, the interior journeys of Conrad's heroes culminate in a rebirth *through* death, where the characters goes through many circular movements before being overpowered by death, itself a circular pattern in nature (75). The interior journey to self-discovery for the characters indicate a hope for the artist beyond the hope of the characters he is portraying, that literary circulation has the power to reach his audience. The composition of these tropes constructs hope for the audience to change circumstances through potential bifurcations.

I have established how Conrad uses his scientisms as tropes to model the irony of the co-existence of polarized forces in London, and how their "collisions" and "correlations" work toward an irreversible self-organization of structure in his constructed world. Conrad demonstrates how the attractor works as an oscillator through the polarized energies of his irony to "translate" between microscopic levels of becoming (Stevie) to macroscopic levels of becoming (London). In the next section, I will show the microscopic levels of contextual influence of Pound's vortex theory. Porush's next categorization of interpretation of Ilya Prigogine's theories moves from Conrad's macroscopic level of explanation to Pound's microscopic level of structure with his scientisms of the atom, the vortex, and the crystal. Conrad's structure demonstrates the

constant war in the dialectic of polarized forces. Pound's scientisms show how the precipitant atom "creates" context through the formation of "crystals" of understanding, and how those crystals work as literary metaphors to represent Pound's career work, focusing upon the artist as source of poetic energies.

Notes

¹ Jack Amariglio and Antonio Callari show that the political economy of signs and signification is caught up with “the near hegemony of subjectivity underlying most approaches (including radical ones) to economic activity” (187). Thus, the bourgeoisie of London make time a discursive commodity fetish.

² Conrad reveals that the crucial elementation of an effective revelatory art occurs in two things: the handling of time and the portrayal of images, both of which must occur simultaneously, and done in terms of a simple but crucial exposition of those images in exact juxtaposition. According to Conrad’s Preface of *The Nigger and the ‘Narcissus,’* the artist must strive “to snatch in a moment of courage, from the remorseless rush of time, a passing phase of life ... and through its movement, its form, and its colour, reveal the substance of its truth--disclosing its inspiring secret: the stress and passion within the core of each convincing moment” (Conrad, *Nigger* 147). Bruce Johnson notes that Conrad’s attention to what the impressionistic moment *means* is particular to “the *Zeitgeist* that produces both Husserl’s and impressionism’s defense of subjectivity against the increasingly strident claims of science to revealing in an orgy of ‘objectivity’ the ‘inside’ of Nature” (53). Thus, how epistemic first principles are viewed must change according to factual perception and interpretation of paradigms. Scientisms demonstrate that all attempts to separate science, history, literature, and philosophy inevitably must fail: cultural “adulteration” of scientific information (or any kind of information) will inevitably take place, because once information is out in culture, it is fair game for dilution or delusion, misinterpretation, adulteration, capitalization, or any number of uses, and the scientific community itself simply does not have the power to control its information once it becomes part of public knowledge and domain.

The uses of scientisms vary according to discursive practice, and for the purposes of Impressionism, like Expressionism, an appeal to the natural eye’s “‘primitive state where what the mind has learned can be stripped away from what the ‘natural eye’ can truly apprehend,” forgetting “tactical illusions and their convenient dead-language of line and acts only in its faculty of prismatic sensibility,” as Johnson quotes from Jule’s Laforgue’s 1883 essay on Impressionist painting (qtd. in Johnson 56). According to Vladimir’s description, science is scientized as a metaphor for the mind in which intellectual mediation is stripped away, calling for “an historical motif as the structuring aesthetic principle” so that “scientific and quasi-scientific theories of color and vision that inform impressionism only serve to confirm the impressionist’s intuition that he has reached back to some kind of original seeing, and that such perception offers a kind of truth quickly eroded with the impositions of reasons and the special perceptions of other

senses” (Johnson 56). Therefore, the meaning of the metaphor, like the bodies it inscribes, erodes.

³ In philosophical circles, the grounding of religion with factual empiricism had been a primary goal of many scientists and philosophers (such as Immanuel Kant) up until the early nineteenth-century (since religion had more authoritative clout than science). As Stephen Kern notes, “With the decline of the religious conception of man in the late nineteenth century, many drew from these systems to give meaning to life in a world without God. If man could no longer believe he had a place in eternity, he could perhaps find one in the movement of history” (50). As Crosbie Smith explains, many of nineteenth-century thermodynamic scientists, including William Thomson (Lord Kelvin), James Clerk Maxwell, P.G. Tait, Rudolf Clausius, and Sadi Carnot, included God into their theories of cosmic design, meaning that they almost all resolutely rejected the notion of a cyclical thermodynamics in favor of a directional economy of nature, where creation could have both a beginning and an end from the view of creationism (Smith 111). In response, the positivists of the late nineteenth-century in particular focused on the primacy of the human senses as the only admissible basis for knowledge, thereby influencing a movement away from spiritualism and toward the purity of objective empirical data found through direct observation.

⁴ Philip Taylor, a physicist with the Greenwich Observatory, indicates the bomb incident occurred not in 1886, but in 1894, 15 February, and gives a complete description of the account of two Observatory scientists on his website, explaining that

In Greenwich, on the afternoon of February 15th, 1894, a figure...appeared to be crouched on the zig-zag path below the Observatory.

Racing down, their first thought was the that man had shot himself, but the scene they encountered was unexpected and horrific. The park-warden was holding a man who, despite massive injuries, was still alive and able to speak. The man’s left hand was completely missing and he had a gaping hole in his stomach. Soon a doctor and stretcher were fetched from the nearby Seaman’s Hospital, to where he was carried. The man died about 30 minutes later, having said nothing about who he was or what had happened.

Police investigators soon learned that his name was Martial Bourdin. That afternoon the 26 year old Frenchman left his room in Fitzroy Street and took a tram from Westminster that took him all the way to Greenwich. On leaving the tram he was observed to be carrying a parcel

as he made his way to Greenwich Park. ...it appears that due to “some mischance or miscalculation or some clumsy bungling” the bomb exploded in his hand. He had a considerable amount of money on him, which led investigators to believe that he was intending to leave for France immediately.

Later on the day of the explosion, police raided the Club Autonomie in London, arrested all of those inside and discovered that Bourdin had been a member of this club which had attracted mainly foreign anarchists. ...His brother in law was widely believed to be a police informer and anarchist writers in the years following the bombing always claimed that the whole episode had been inspired by this agent provocateur. (Taylor)

⁵ Vital impetus is a Bergsonian phrase that indicates the role of human will in the contingency of life and how it is experienced (*Creative Evolution* 57-8). Winnie chose to marry Verloc; nobody, not even her mother, forced her to it. Her ignorance of Verloc’s profession could have saved her the trouble, but she also chose not to look into his background, thereby leading (albeit accidentally) to the tragic events that follow in the novel.

⁶ This idea follows Bergson’s theories on the contingencies involved in time and space. Duration (*durée*) of the universe includes all past, present, and future of all material objects in all universal space, where chance correspondences necessarily occur between objects over the course of all time (Bergson, *Creative Evolution* 6-8). Vital impetus is the force that compels the psyche to use memory to interact with contingent duration, so that we see that history is a construction of memories, and as always, written by the victorious.

⁷ The London bourgeois control the Prime Meridian as their economic tool of measurement at a median point between worker energy and work produced, thereby controlling the movement of transformations of thermodynamic change through the machine, man, with the idea of transforming this raw power, the universal *Kraft*, through the metaphor of the human body as motor of the laboring body of the *polis*: “this image of the body as the site of energy conservation and conversion also helped propel the ambitious state-sponsored reforms of late nineteenth- and early twentieth-century Europe,” and “lent credibility to the ideals of socially responsive liberalism, which could be shown to be consistent with the universal laws of energy conservation: expanded productivity and social reform were linked by the same natural laws” (Rabinbach 2). Michaelis, the “ticket-of-leave-apostle” of the anarchists, notes that “history is dominated

and determined by the tool and the production--the force of economic conditions" (41), demonstrating how the discourses of technology (the practice of science) links up to the discourses of economics and social science. Michaelis has this idea somewhat backwards: history, like science, is a discourse that codes what follows after it, meaning that the system of London is dependent upon its past for its current conditions, a state called by catastrophe theory experts Castriano and Hayes "hysteresis" (49).

⁸ According to Deleuze and Guattari, such an identification is consistent with the Modernist rejection of realist bourgeois values which stressed the establishment of resemblances in series in imitation of nature, and is the move back toward the institutionalization of totems, which is to "transcend external resemblances to arrive at *internal homologies*," as described as Lévi-Strauss; its whole purpose is to arrive "at a symbolic and structural order of understanding," to aspire to "an identification between Man and Animal at the heart of a mystical participation" (236).

⁹ As Robert Andreach proposes, the Professor takes this view of the "hygienic" ethos of science to its utmost extreme: "the Professor, who has made science into 'something secularly holy,' loses his assurance in a street peopled by mankind 'impervious to sentiment, to logic, to terror, too, perhaps'" (84), in his futurist vision of making a clean sweep of the humanity while maintaining the contradictory idea that its destruction would let humanity start over from scratch.

¹⁰ The references to Silenus in Conrad's narrative (the name of the beer-hall and the direct comparison of the night cabbie to that Protean-like satyr) has several allegorical significations in this novel that link it to the overall allegory of the connections between knowledge and the mortal passage of time. In the myth, Midas captures Silenus, a satyr who mentored Dionysus; the myth goes that Silenus, a son of Pan or Hermes, was exceptionally wise, but men had capture him to force him to tell his truths. One day, Silenus was captured by King Midas, the mythical king of Phrygia, who wanted to know wisdom. In answer to Midas' question, Silenus relates a parable the moral of which is that mankind is better off not knowing such information; when Midas insists, Silenus tells him that wisdom is to know that it is better to have never been born at all than to live as a mortal, but if one has this misfortune, then it is for the best to die quickly ("Midas"). In Conrad's narrative, time becomes the allegorical metonymy for the struggle between two factions, the bourgeoisie and the anarchists, the pious and the warlike of those cities of Silenus' parable, particularly in this short but tragic history of Winnie Verloc and her family.

¹¹ Winnie and Stevie are examples of how science has failed to "cure" London society of its "moral insanity," a motif Conrad was inspired to use, as Fleishman points

out, by the real quote of the *real* counter-revolutionary Baron Stott-Wartenheim ["Unhappy Europe! thou shalt perish by the moral insanity of they children! (qtd. in Fleishman, *Conrad's Politics* 195)]. Conrad sets up the character of Verloc as an agent working for this infamous anarchist, whose death obviously put Verloc at a great disadvantage, since, as Vladimir exclaims, "voice won't do," and that only the solid "fact" blown sky-high would have any effect on a bourgeois grown fat on the proceeds of scientific study.

¹² As Conrad's novel demonstrates, Cameron's and Edge's distinction between practice and sets of facts is problematic, because practices and doctrines are inextricably bound together by their epistemic assumptions. As Gayle Ormiston and Raphael Sassower assert, to necessarily assume an objective truthfulness of these epistemes, established as they are as foundational rules of thumb certain categories, truths, and rules of texts and textuality, is to "forget the conditions that make possible those categories and rules--the conditions of use, that is the interplay of theory/practice" where "the articulation of any fictional account, any representation, or any narrative is at once the formulation of the principles that guide the articulation itself" (23).

¹³ Michael Bell posits that "when 'paradigm shifts' occur there is a corresponding focus of attention on philosophical first principles," and this idea was especially true for the latter half of the nineteenth-century, where "the shift from Newtonian to modern physics excited a concern for the general status of scientific theory;" therefore, "literary artists looked closely at the philosophical nature of their own medium, language" (M Bell 44). Specifically, the problem of language as mediation as a science in itself became mixed up with these questionings of *a priori* principles: if the very grounds of material objects are not so solid as was first believed, then history, the so-called recording of human and phenomenal events on earth, can also be questioned.

¹⁴ As O'Hanlan notes, even James Clerk Maxwell could not reconcile the processes of atoms, which could not be artificially generated or destroyed (according to Thomson's laws of conservation and entropy), with the processes of evolution, taking for his example Maxwell's lecture to the British Association (11-12). O'Hanlan does not connect this lecture directly to Conrad's attraction to the language of physics, although he does extrapolate from one to the other. Conrad's dedication of *The Secret Agent* to H.G. Wells and the novel's use of Ossipon's devotion to Cesare Lombroso are two direct indications of the connections between biological evolution and physics, which come together in the physical forms of the bomb and Stevie's death by the bomb's explosion.

¹⁵ This belief constitutes what Bruce Clarke notes is a diffusionist view of scientisms, where scientisms are deemed *illegitimate* offspring of original scientific data

(*Energy Forms* 1-2). That does not mean that Conrad should not have used them at all; it simply means that the use is extra-scientific, a “spillover” outside the empirical data that science is meant to present.

¹⁶ Another example of a scientific allegory is Freud’s Oedipal complex, the allegory of which Freud borrowed from Sophokle’s *Oedipus Rex*. Such allegories have the power to generate their own discursive perpetuation as they are likewise borrowed for other theories, just as Lombroso’s allegory borrows from Darwin’s evolutionary theories.

¹⁷ As Courthion notes, “the hue and cry of the conservatives became more violent, more spiteful toward what they called ‘a bomb thrown in the face of the public’ ” (Courthion 30). Conrad gave his audience this bomb-in-the-face literally in his storyline of this novel, historically borrowing the real life bombing attempt of Greenwich and making it part of literary fiction, with a cold mind to exposing this passive bourgeois attitude as the most dangerous game of all. Conrad adopted some (although not all) of Impressionism’s aesthetic techniques, such as pointillism, in order to enhance portrayal with ideological significance by adopting these objective things to stand for values, as when he writes about the events surrounding the Greenwich Observatory bombing. While Conrad never specifically called himself a literary Impressionist, Ford, a close friend of Conrad’s, mentions him at length as such in his letters and memoirs, while Conrad himself alludes to his technique as painterly in the Preface to *Nigger of the “Narcissus”* (1898): “Fiction--... must be like painting,... . Such an appeal to be effective must be an impression conveyed through the senses..., it must strenuously aspire to the plasticity of sculpture, to the colour of painting” (146). Conrad hopes that such a portrayal may “awaken in the hearts of the beholders that feeling of unavoidable solidarity; of the solidarity in mysterious origin, in toil, in joy, in hope, in uncertain fate, which binds men to each other and all mankind to the visible world” (*Nigger* 147). In *The Secret Agent*, human history is made from the erosion of bodies and codes alike, revealing that history is not simply laid out in a point-by-point succession, as phenomenal time is, but as a vertical paradigm where histories of old collide with new through their discursive re-iteration.

¹⁸ As Ford Madox Ford pointed out in “On Impressionism,” this problem is one that every artist encounters when composing: does the artist begin by describing the entire history of his fellow, or by his initial impressions? (Ford 194). One begins by noting physical appearance first, from which one makes some initial observations about that person as an image; then, the observing subject must make the decision and judgment about whether to judge by mere appearance or go further into discovering that person’s character through more interaction, more discussion, so as to arrive at a decision of what kind of person they are dealing. Ford notes that he and Conrad both agreed that “the process of written art is above all to make you see,” and Ford noted that “Conrad had

certainly a infinitely greater hold [than Ford did] over the architectonics of the novel, over the way a story should be built up so that its intent progresses and grows up to the last word” (179).

¹⁹ The sites of time and space in narrative occupy a central aspect of literary production, especially for the production of the novel, the product of a unifying heuristic, and the novel itself occupies a centralized site of production of literary work. Conrad’s narrative technique bespeaks itself metanarratively to this task by moving the timelines back and forth, out of order of succession, so that the reader may view the text “forensically,” just as medical student must view a body as a conglomerate of parts that work together.

²⁰ According to O’Hanlon, “...Conrad’s world is heated by a sun that is treacherously dying, burning itself out according to the calculations William Thomson’s paper “On the Dynamical Equivalent of Heat,” published, ironically enough, in 1851...”, significant because it is “imaged as the very same source of power which produced those material interests, a ball of coal fire, the sun in late Victorian times seemed to have had a very short past (far too short for evolution as Darwin imagined it), and... to be destined for a short future (O’Hanlon 18).

²¹ As Roland Fischer notes, “the history of clockmaking shows a continuous search for a device which can convincingly image the rhythmic activity of nature and man,” in order to reflect cycles of measurable activity, and that “mechanical timepieces have sometimes been compared with the Newtonian universe” because “the clock was not only an image but also a miniature model of the Great Everything: stars, man and all” (Fischer 385-86).

²² According to Jeremy Rifkin, the science of Descartes and Isaac Newton focused on the matters of mechanical motion, and “the Greek view of history as unfolding chaos and decay was deemed unmathematical and therefore false” (Rifkin 21). The need to control nature was superimposed as a duty of the state when John Locke promoted the idea that “the social role of the state...[was] to promote the subjugation of nature so that people might acquire the material prosperity necessary for fulfillment” (Rifkin 24).

²³ The invention of Greenwich Mean Time by George Airy in 1873 was the establishment of one of those “facts” I discussed in Section One of this chapter, a fact constructed by science to underpin its political gains. This “fact” gives Great Britain some political tactical advantage: a universal time, starting with Greenwich as its point of origin, which establishes Great Britain’s powerful sway over the rest of the world, forcing them into compliance with the new time zone, as well as establishing Great Britain’s

significance as a center of commerce for the world. This universalization of time becomes indispensable for sea navigation (obviously of interest to an old salt like Conrad), as well as for the surveillance of land (Clemence 408-09). However, such a fact is "easily disrupted by whim and local fiat as exemplified, for instance, by the practice of Daylight Savings Time" (Clemence 408). Conrad shows that this paradigm has its up's and downs.

²⁴ According to Amariglio and Callari, fetishization of a particular discourse occurs as a result of an essentialist discourse of economic determinism, when a culture's "distribution of the labor of society" becomes "immanent in the very definition of society," which is defined as "an organization that must solve the problem of allocating labor in such a way as to secure the existence and reproduction of that society" (194). To protect their material interests, Britain had to reduce "cultural and political moments of social practice to effects of the economy, an economy itself conceived as structural expression of the law of value" (Amariglio and Callari 194).

²⁵ A perfect example of such mass delusion occurs in Conrad's novel in the character of Michaelis' lady patroness, who mistakenly thinks that even if all capital in Great Britain were to be annihilated, indeed, even if universal ruin occurred, that "social values" would be "untouched," and that "the disappearance of the last piece of money could not affect people of position," a notion that she discusses with the Assistant Commissioner as he investigates Michaelis' possible connections to the Greenwich bombing (111). What the lady fails to recognize is that if she lost her money, she would be hard-put to hold onto her position. Indeed, such "deposed" aristocrats often find, like Verloc, that they are not "loved for themselves" but merely respected, because people are afraid of their power to influence others in society. These agents "fail to see that the circulation of goods takes place according to the particular mechanism...through which their socially productive activity is organized in order to meet socially constructed needs" (Amariglio and Callari 196). As Conrad demonstrates, this "false consciousness" is a form of mass delusion that afflicts the anarchists *and* the more respectable bourgeois citizens of London, where their philosophies of individuality reveal a certain capacity for ignoring the obvious problems of their progressive alienation, caused by their stratified statuses in society.

²⁶ People must have devices to measure time, since in phenomenal space, time does not exist. Time is a measurement based upon man's need to control his own duration in the world. For the purposes of Conrad's novel and the time of its setting (1894, the year of the real bombing attempt), the device in use in the Octagon Room of the original Greenwich Observatory was the 1715 deadbeat escapement, which led in turn to Astronomer-Royal George Airy's invention of Greenwich Mean Time in 1873, in use until 1922 (Lloyd 388-98). To understand time regularity as perfectly reiterative is not exactly

correct, however, because ironically, time based upon the circular rotation of the earth and therefore “is not suitable for precise scientific applications,” since “the earth moves around the sun in a ellipse, not a circle;” hence, “its orbital motion is not uniform,” but “*with respect to the sun*...is variable” (Clemence 409). As G.M. Clemence notes, “unfortunately it [the notion of a standardized time] is easily disrupted by whim and local fiat as exemplified, for instance, by the practice of Daylight Saving Time;” in addition, such a universalization of time becomes indispensable for sea navigation (obviously of interest to an old salt like Conrad), as well as for land surveillance (Clemence 408-9). The significance of this “universalization” of time for the bodies in Conrad’s text occurs in their situations in that particular space and time in London.

²⁷ The human heart is the most natural of clocks in terms of measuring both human existence *and* the passing of time. For example, Conrad reveals that Winnie mistakes Verloc’s dying heart for the ticking of the clock on the wall. Conrad is using this episode to reveal that the reason for such a “mistake” of perception is due to cultural expectations of time as a measurement of human duration, rather than within cosmic time. As Leon Higdon notes, Conrad’s use of the barrier moment, “an all-important moment, but...a moment of finality rather than a moment of transformation” (74), marks these crucial bifurcation points of activity in the novel’s narrative. Some examples of barrier moments in the novel include Verloc’s journey up the street to the Embassy, his meeting with Vladimir, Stevie’s overhearing of Ossipon’s and Yundt’s moralizing anarchist proselytizing; when Winnie asks Verloc to take Stevie along with him on Verloc’s “errand”; Chief Inspector Heat’s revelation to Winnie of Stevie’s death; and Winnie’s decisions to kill Verloc and then herself. Time must be measured in the novel both in terms of its effect on the novel’s characters and its effect on the novel’s narrative as a mock-history.

²⁸ Levenson explains Bergson’s exposition of this problem as related to “our habitual thinking ‘in terms of space,’ our penchant for analyzing reality into discrete spatial entities,” because “the way to contest materialism is to show the existence of phenomena not susceptible to such “spatial” analysis--that is, to prove the reality of ‘intensive manifolds’,” and that “time as spatial fetish is one aspect of the creation of art, especially in language where the sites of syntax and diction are appropriated for specific uses” in which the observer confuses “succession and simultaneity, duration and extent, quality and quantity” (Levenson 41).

²⁹ As Ilya Prigogine demonstrates, “in mechanistic science, events begin with ‘initial conditions,’ and their atoms or particles follow ‘world lines’ or trajectories” which “can be traced either backward into the past or forward into the future. ...it is reversible time, associated with ‘closed systems’...that may well be the rare or aberrant

phenomenon” (Prigogine xx-xxi).

³⁰ As Henri Bergson demonstrates, within human perception, time is practically infinite, so that spatialization of duration is a necessary step to measure time within terms of human existence, through the use of clocks and time-measuring technologies such as latitude and longitude--time is measured through the contingency of the number of correspondences made between objects and their states within paradigmatic systems (Bergson, *Creative Evolution* 7). James English’s studies go into more detail on these Bergsonian aspects of human duration as philosophical concepts in Conrad’s works.

³¹ In Conrad’s own words of the real bombing incident, “I remember remarking [to Ford Madox Ford] on the criminal futility of the whole thing, doctrine, action, mentality; as of a brazen cheat exploiting the poignant miseries and passionate credulities of a mankind always so tragically eager for self-destruction” (xxxiii). Conrad notes in his Preface to the novel that the catalyst for the “crystallization” of his vision of London came about as he mused over this situation, in relation to “the past...of the sea, the vast expanse of salt waters, the mirror of heaven’s frowns and smiles, the reflector of the world’s light,” when “the vision of an enormous town (London) more populous than some continents and in its man-made might as if indifferent to heaven’s frowns and smiles,” a “cruel devourer of the world’s light” (xxxvi).

³² As Penrose notes, every “fish” in Escher’s drawing is congruent to every other fish in that circle, whether it is in the dead center of the drawing or at the margins, and even if one is located just inside the pattern close to the boundary of the outside, the margin, the appearance would be the same as if that person was in the middle: “what appears to be this ‘boundary’ of the pattern, according to this Euclidean representation [of hyperbolic geometry], is really ‘at infinity’ in the Lobachevskian geometry” (Penrose 157).

³³ Martin Rosenberg mentions a similar way of viewing the trope from this perspective of the “horizon of circular reappropriation of the proper sense,” where the trope (especially the metaphor) is a physical accomplice to linguistic “detouring,” especially in fiction where an essential connection is made between words and things (“Dynamics” 3). Rosenberg concludes that “within the field of trope theory, we can demonstrate the instability of a tropical system, based as it is on ‘circular reappropriation,’ by observing trans-disciplinary borrowings” (“Dynamics” 3).

³⁴ O’Hanlon reveals that Conrad’s vision of the “circularity” of physics may have come to him through his sea experience, where “the circular horizon limits the world of the ship; the closed path, the circling of the planets, limits them too; and within both

circles, it is a universe of static dualities, where biological man-time is irrelevant,” what Conrad referred to as being “launched into Eternity,” “in which there was nothing to connectone with the Universe but the incessant wheeling about of the sun and other celestial bodies, the alternation of light and shadow,” and where “the time of the earth, though most carefully recorded by the half-hourly bells, did not count in reality” (Conrad qtd. in O’Hanlon 23). While O’Hanlon identifies the energetic “waves” that this “ocean” produces, my emphasis is on the circular figurations themselves, because this vision is specifically a “hyperbolic” geometrical configuration, where the vertical plane of authorial vision oversees the enclosed world, but where the characters in it cannot see beyond their own congruent boundaries.

³⁵ A man without a country, Conrad’s obvious displacement gave him the experience necessary to portray this alienation and its consequences in the otherwise “closed society of London, the “foreigners,” like Verloc, the invading virus to initiate change. He was very sensitive concerning his alienation, and reason seemed a way out of that romantic idealism leading to such anarchy. As Edward Said notes, “in a world whose condition is chaotic, meaningless, and oppressive, for Conrad it was reason, or the intellect that could illuminate and then master all the threats of chaos,” since reason, as Conrad himself wrote, “resembles that of electricity in being cold” (*Poradowska* 27, qtd. in Said 18). As Henry Adams notes, in order to seriously portray a history that speaks to truths, a certain kind of falsification, or fiction, is necessary, even if it means altering the facts somewhat (457). Conrad did not simply write a biography of the real bombing incident; he constructed a fiction out of partial truths. Likewise, in the novel, Winnie must reconstruct her own fiction of Stevie’s explosion in order to sort out the truth of her own situation.

³⁶ Conrad evidently borrowed the horse scene from Fyodor Dostoevski’s *Crime and Punishment*, replacing Raskolnikov’s ax with the cabman’s whip, as well as altering the configuration of the horse’s significance as a symbol in *The Secret Agent*. The cabman knows that sometimes evils must be practiced so that society is served, even if such practices are morally wrong, and he, unlike Stevie, is part of the loop of concentric society, while the eccentric Stevie is out of that loop. “Looping” is apparent when Conrad uses the allegory of Silenus in relation to Dostoevski’s allegory, demonstrating the narrative allegorization of allegories, and hence re-circulation of texts, implying Conrad’s perspective.

³⁷ Stevie’s circle is also a psychological sign of what Sigmund Freud defines as an inverted personality disorder, demonstrated through Stevie’s personality, but it is also a sign of an eternal recurrence. Winnie had to be Stevie’s protector from their own father, whose disappointment in the boy’s mental state came out as violence against Stevie.

Stevie's father abused the boy, which exacerbated his son's inversion, causing him to hide behind Winnie's skirts in this crucial childhood phase of self-identification, not in itself a direct cause of Stevie's mental incapacity, but causing Stevie to identify himself with her rather than with his father, of whom Stevie is afraid.

³⁸ Allan Hunter cites John Searles' discussion on naming practices, when Searles points out "names in our language...enable us to publicly refer to objects without being forced to raise issues and come to an agreement about which descriptive characteristics exactly constitute the identity of the object. They function not as descriptions but as pegs on which to hang descriptions" (qtd. in Hunter 162).

³⁹ As Sigmund Freud indicates, inversion often results from such identification, or in this case, from its lack (560), as was revealed in Stevie's case history of childhood identification. Inversion is typically mistaken as a sign of innate nervous degeneration, a diagnosis overdone by doctors who observe only a few nervous patients with that condition; Freud denigrates such frequency of the diagnosis of degeneracy, replacing it with the term inversion, stating that "the term, *degeneration*, is open to the objections which may be urged against the promiscuous use of this particular term," and that "it has...become customary to designate all morbid manifestations not of traumatic or infectious origin as degenerative" (555). This problem with this term, according to Freud, is its ambiguity, as its overgeneralized points of argument are fallacious; a doctor could easily misdiagnose a physical ailment as a mental one in this capacity, certainly the case still in evidence with contemporary diagnoses of depression, schizophrenia, and Attention Deficit Disorder at the turn of the twentieth- and twenty-first centuries.

⁴⁰ Freud discusses the double meanings of words (especially in names) as a technique of wit (obviously a metaphysical wit), where words having the double meaning (or more) are "manifoldly applied" (649). Freud concludes with a connection between the dreamwork of condensation of mixed word formations, which re-applied to literature reflects a whole and a part of something and changes in order, as reflected in the play of double meanings (653). The application of the word with double meaning is a condensation, a tendency toward an economy, in which the compression of meanings works to control writing technique (Freud 653).

⁴¹ Guetti's ideal metaphor is what he refers to as a "true" metaphor, which is "always provisional, always explicit regarding the fictional quality of the verbal fusion that it seems to be working toward; it emphasizes the separateness of its elements as much or more than the connectedness of them" (172). In this sense, the metaphor might also be a metonymy, especially in an allegorical fictional work.

42 The return is a resurrection theme of seasonal transformations, also referring back to Apollo's own nineteen-year annual return to this mythical land, as well as to the Hyperborean custom of flinging themselves into the sea when the Hyperboreans considered themselves as happy and at a high point of life, taking their lives in order to find a happy end ("Hyperboreans"). This allegory is connected to yet another allegory in the novel in the reference to the Silenus beer-hall. According to myth, when King Midas captured the protean Silenus, satyr and mentor of Dionysus, Midas forced him to teach him wisdom. Silenus then recounts the story of the struggle between two cities, one a city of war and the other a city of piety, both outside of this world. These two peoples came to earth, meeting the Hyperboreans, who were miserable by comparison to these "Others," but still the happiest people on earth ("Midas").

This myth is connected to the scene in which Conrad describes the night cabbie in Chapter Eight (the scene involving the horse) as having "jovial purple cheeks bristled with white hairs; and like Virgil's Silenus, who, his face smeared with juice of berries, discoursed of Olympian gods to the innocent shepherds of Sicily" (166), just as the cabbie talks to Stevie "of domestic matters and the affairs of men whose sufferings are great and immortality by no means assured" (166). As Michaelis and the other anarchists discuss the nature of their social universe, they resolve that the bourgeoisie will devour themselves, and everybody else, for that matter, by the sheer numbers of mob rule, "the great capitalist devouring the little capitalists, concentrating the power and the tools of production in great masses, perfecting industrial processes" (49). As the novel ends and the Professor and Ossipon drink in the Silenus pub, they argue over the forces of life and death; the Professor, who is frightened by the mediocrity of the majority of people, which he had earlier noted in his abrupt meeting with Chief Inspector Heat that mediocre people are the "invincible multitude...the resisting power of numbers," particularly "the thought of a mankind as numerous as the sands of the seashore, as indestructible, as difficult to handle," where "the sound of exploding bombs was lost in their immensity of passive grains [of time] without an echo" (95, 306). The Professor is choked by the thought that reform (and hence, transformation of the human race) might not even be possible if the human race were obliterated. As Conrad's narrator states in Chapter Eight, "immortality [is] by no means assured" (166), despite the influence of science.

Conrad's allegorical references to Silenus tie into the scientism of time by inferences to existential themes in the story, so that these allegorical myths code the ethos implicit to the sociopolitical constructions of scientisms in the novel by connecting man's duration to time as a construct: the Silenus myth is significant to the theme of time because it connects Conrad's characters to the idea that people are perhaps better off not knowing how little time they have left on earth, and to seek more knowledge is to

discover, like Winnie, how their futures are built on little more than the shifting sands of an hour glass. Therefore, Conrad mythologizes science, especially evolution, a theme that James English, Avrom Fleishman, Redmond O'Hanlon, and Allen Hunter have all covered. Because their studies cover this theme extensively, I need only mention evolution as they have already established it as within their studies. Where my study differs from theirs concerns how these allegorical discourses overlap at the level of an exteriorized configuration of London as a physical and chemical system, rather than at the level of Conrad's evolutionary biologization. In order to get to the level of evolutionary progression or regression, one must first traipse through the muck and bare bones of chemical composition and physical motion, which eventually gels to form Conrad's evolution as an overall scientism of his plot evolution.

⁴³ Derrida refers to this absence/presence dyad as a dialectic of "protention and retention," a delay that Freud states is a now that "is inadmissible to consciousness, an experience to be determined, in its very present, by a present which would not have preceded it immediately but would be considerably 'anterior' to it," "the problem of the deferred effect (*Nachträglichkeit*) of which Freud speaks" (Derrida 67). According to Derrida, temporality becomes an unconscious structure, an internal "time-consciousness," which poses the dialectic between internal consciousness of time lived as opposed to the time of the world; in this conception, Stevie as trace functions as "an accomplice of the time of the world" (Derrida 67). Porush confirms this claim, noting that when the novel emphasizes a subjectivistic experience of time as a process of producing information, especially in conjunction with using scientific models to expose the work of the human mind, as literature does, then literary discourse "must be understood as a superior form of describing what we know," since science serves to reinvest literary works with new values (77).

⁴⁴ While Verloc believes that Winnie has dressed in black to tell her mother of Stevie's death in Chapter 11, "nothing was further from Winnie's thoughts than going to her mother," as "her attention had been simply to get outside the door for ever" (255). As Verloc attempts to persuade her not to go see her mother at such a late hour, Winnie considers her next moves carefully; Conrad exposes her motives carefully.

Now he had murdered Stevie he would never let her go. He would want to keep her for nothing. And on this characteristic reasoning, having all the force of insane logic, Mrs. Verloc's disconnected wits went to work practically. She could slip by him, open the door, run out. But he would dash out after her, seize her round the body, drag her back into the shop. She could scratch, kick, and bite--and stab, too; but for stabbing she wanted a knife. (256)

Like the blank wall Winnie is staring at when she first considers the news of Stevie's demise, her own possibilities are literally erased as she considers what Verloc would do to her if she attempted to leave on her own accord, and it is upon this blank wall, her mind as a virtual blank, that she "plots" her own revenge against Verloc. With Stevie gone, her own purpose for her marriage to Verloc is erased, too, so that she is "free" of that obligation on Stevie's account. However, she is not yet "free," however, because there is still the matter of her marital vows to Verloc, as well as consideration of Verloc's own accusation that "if you will have it that I killed the boy, then you've killed him as much as I" (258). Winnie has no purpose left in staying with this marriage; her mother is gone, so she is no longer obligated to look after her; she must punish both Verloc and herself for their crimes, her crime of "not looking into the inside of facts," and his crime of setting up Stevie's death. "At that precise moment Mrs. Verloc began to look upon herself as released from all earthly ties. She had her freedom. Her contract with existence, as represented by that man standing over there, was at an end" (251). These facts set the stage for one possible direction of action, where Mrs. Verloc, no longer Winnie but merely the shadow of a marital tie gone bad, a nomenclature without meaning, is herself the blank wall to be inscribed by her subsequent action, and as she considers this last possibility, her own face changes to reflect murderous madness. Only then is Winnie "free." Even in Chapter Eight Winnie's mother admitted to herself that "girls frequently get sacrificed to the welfare of the boys," her daughter a sad example of such a sacrifice. For Winnie, to be "free" is to be dead, all of her social contracts null and void. Verloc's release of the butcher knife and his movement to the couch are Winnie's signal to proceed with cunning, since "she chose to answer him so readily for a purpose," since "she did not wish that man to change his position on the sofa which was very suitable to the circumstances" (261).

⁴⁵ As Bergson notes, "the negative form of negation benefits by the affirmation at the bottom of it," because "bestriding the positive solid reality to which it is attached, this phantom objectifies itself," thereby forming its opposite (Bergson, *Creative Evolution* 31). The circle is such a figure of negation. Bergson's theory explains the effect of Stevie's states of being and non-being as oscillating states of polarized activity that balance and cancel each other out. For more on negation, see Bergson's *Creative Evolution*.

⁴⁶ The absolute nothingness proposed by the Professor is negated by Stevie's accident, a destruction of a part of the whole of London, demonstrating what *would* happen if the Professor were to get his way. The sign of an absence always signifies the *need* of something that is *not present*, thereby demonstrating Conrad's ethos for the novel by reconstructing London in his view, then demonstrating the absence of Stevie and Winnie in their full impacts on that system. However, this "nothingness" is also a manifold application of Conrad's double entendres, of the kind that Freud theorized that constitutes

the paradoxical character of ironic wit, as well as one which points to Conrad's play on the metaphysics of topological spaces in literary play.

Plays on words are rampant in Conrad's syntax, the context of which multiplies the meanings possible for a single word; in relation, words can have a significant impact on a reader's consciousness. In Chapter Thirteen, the Professor states that if given "madness and despair" for a "lever," he can "move the world" (309). When Ossipon pulls out of his back pocket the old newspaper with the article on Winnie's suicide, the Professor asks him if "anything" is in it, to which Ossipon "started like a scared somnambulist," stating "Nothing. Nothing whatever" (306). However, Ossipon does not throw the newspaper away, and he slowly deconstructs the wording of a sentence in that article that stated, "*An impenetrable mystery seems destined to hang for ever over this act of madness or despair*," over which Ossipon, who is "scientifically afraid of insanity," obsesses, deconstructing the phrase over and over in his mind in an analytical frenzy (307). He muses over the fact that since he took Winnie's "blood" money, he has forgotten appointments, which meant that "if he could no longer make use of it [his talent for seducing women for their money], he ran the risk of starving his ideals and his body;" however, even though the newspaper states that this mystery is "impenetrable," Ossipon alone knows the full truth of Winnie's horrible secret: "He knew. But the stewardess and the chief steward knew nothing, except that when they came back for her in less than five minutes the lady in black was no longer in the hooded seat. She was nowhere" (309), Winnie's condition for the entire length of the novel, a paradox where Conrad uses black ironic wit to manifoldly apply the journalist's phrasing in conjunction with the location of Ossipon's own grief, the Silenus beer-hall, to imply that Winnie's suicide has ruined Ossipon's perfectly egotistical happiness by "penetrating" him to his ethical core: "He was walking away from [his appointment]. He could face no woman. It was ruin. ...His revolutionary career, sustained by the sentiment and trustfulness of many women, was menaced by an impenetrable mystery... *Will hang for ever over this act* ... It was inclining towards the gutter... *Of madness or despair*" (310-11). Ossipon, in characteristic oscillation, returns to make a diagnosis of himself, that he is "seriously ill," "with scientific insight," but walking "feeling nothing, seeing nothing, hearing not a sound" (311). Paradoxically, while Ossipon makes out as a bandit, he, too, suffers from the degeneracy of Stevie and Winnie; he suffers from his conscience. Conrad's ironic suggestion, by way of Ossipon's deconstruction of the newspaper's phrasing, allows the audience to see the deconstruction of a mind as moved by an act of "madness and despair," which the Professor states bluntly as "lost" in a mediocre world. The definition of nothing serves to point to the existence of something, and in this scene, Conrad's rapid-fire cinematographic method demonstrates how the manifold application of wit unfolds the scenario that unfolds Ossipon's own mind, as the transitivity of induced unfoldings in the plot reveals its iteration of the tragedy of Stevie and Winnie, their disease "caught" by Ossipon.

⁴⁷ According to Spiegel, “to see in the manner of the camera is to recognize finally that ... The object is only seen, and because only seen, ineradicably distance, for nothing can be seen without distance. I am not only talking about optics now. I am also talking about a very special kind of estrangement that manifest itself in...characteristic coldness of vision...” (Spiegel 67). Spiegel’s theory is in line with Bergson’s notion that when people *speculate* upon the nature of reality, they “become unable to perceive the true evolution, the radical becoming,” because “of becoming we perceive only states, of duration only instants, and even when we speak of duration and of becoming, it is of another thing that we are thinking” (*Creative Evolution* 297). The designation of the Prime Meridian is a sign of the struggle between life and death as eternally caught in London as matrix, as part of Conrad’s “alienation effect,” as Bertholdt Brecht calls it, a definite separation of subject and dialogue that demonstrates the space between the agent speaking and the words used to convey that agent’s situation, giving the audience a hint to consider the story in terms of its metanarrative appeals (Eagleton 467). Edward Said identifies the specularity of Conrad’s vision as that of the Nietzschean “spectacular world” (17), where “he remained a speculator [and a spectator] on the fortunes of human life, certain only that there was a rational way to reconcile the powers of his mind with the problems of his worldly existence” (19).

⁴⁸ The transition between the states of being of those “snapshots” of the object/image portrayed becomes as the observer notices their movement from one state of being to another in order to *become*. Alan Spiegel and Earl Ingersoll confirm this idea in their works on the cinematographic art of Conrad’s novels, affirming Bergson’s notion of cinematographic composition in *Creative Evolution*.

⁴⁹ Stevie serves as the image of a warning, what Bergson calls an “intelligible reality,” as opposed to actual reality, making it a hyperreality, a philosophy of Ideals in which quality, form or essence, and intention of design are superimposed. Once the form is imposed via Stevie, Conrad takes him away, so that Stevie’s movement from being to non-being demonstrates a diminution of the simply Ideal, as a metaphysical zero on the order of Plato’s “non-being” and Aristotle’s “matter,” by which “the motionless and simples Idea is refracted into a movement spread out indefinitely,” a degradation of the immutable Ideal as “the perpetual flux of things” (Bergson, *Creative Evolution* 344).

⁵⁰ This cinematic “oscillation” of perspective will become much more important when I launch into my discussion of Stevie as strange attractor, in which the configuration of this pattern of oscillation heavily figures.

⁵¹ As Bergson notes, such an idea is absurd, because it necessarily involves self-

destruction (Bergson, *Creative Evolution* 305), which is imaged in the characters of Stevie and Winnie.

⁵² Stevie as a character, whether living or dead, represents a zero thickness, a phantasm whose countenance appears to fly into the face of Winnie as she murders her ersatz husband, but whose appearance in Winnie's face nevertheless constitutes the cycle of movement from order to disorder through the dispersal of his atoms via varnish can bomb, back to order again as the points of his memory align as an intact image in the system of the novel. As Sandy Stone relates, "a disembodied subjectivity messes with whereness" (398), and since Stevie becomes disembodied, his "spirit" in the novel becomes a free-floating signifier, a memory that grounds his agency Conrad reveals a correspondence of disjunctions in this economy where identity is constituted by difference, and in terms of this novel, the economy of the body of the circle serves as a kind of Freudian deferral of identity.

⁵³ Ira Livingston connects the nature of the circle as irrational and "unintelligible," explaining that its resonance has "the capacity to create a ripple effect (echoing across various dimensions of human life)," connecting the orbital patterns of strange attractors to Muriel Spark's description of the narrative pattern in Mary Shelley's *Frankenstein* as a "figure eight" (130). Unlike Livingston's study, my study applies the figure of the attractor to the configuration of points of directional flow of events in the novel.

⁵⁴ According to Ilya Prigogine, a phase space is a model of the positions of a series of points, intended to represent a dynamic system, specified by both position and momentum, which adds thermodynamics to the dynamic mix of this geometric representation (Prigogine 247).

⁵⁵ Stevie's mind, as a synecdoche for London's own "retarded" redundant state of mind, is not generative (like Apuleius as the Golden Ass), but degenerative, like Kafka's Gregor Samson. As Bruce Clarke notes, "stories of daemonic human metamorphoses are inverted doubles of myths of divine genesis, and typically take the figure of a Fall" (*Allegories* 35), especially in the form of the modernist novel.

⁵⁶ Stevie as attractor leaves a trace in his path, but there is no hope for going either backwards or forwards in time to correct errors; only "the practical inertia of historical logic" enables man to learn from the experiences of the past, to be reconstructed in new forms (Strong 266), which is why it is dependent upon the past, and why it corresponds to thermodynamic laws. The same is true for Winnie, for after she commits suicide, for like Stevie, she becomes a trace in the memory of Ossipon, who is haunted by the London newspaper's pronunciation of her tragic history as an "*act of madness or*

despair” (307).

⁵⁷ The process of naming and numbering is grounded by governmental (civic or national) warranting, which Conrad demonstrates when Chief Inspector Heat “accidentally” reveals Stevie’s death to Winnie. “Government’s response to the fragmentation of their subjects is to develop a hypertrophy of location technologies,” which “work by fixing people in place in a fiduciary sense, by creating a paper trail that attaches to a particularized physical body; for example, social security numbers, passports and street addresses” (Stone 400). As Verloc had earlier mused, the street addresses of London are hopelessly confused in their very designations; the open question of why some intrepid administrator does not attempt to organize these addresses has its simple answer: the task would be impossible, since London is constantly changing, just as the people of London are themselves constantly changing. Addresses and names come to bear in the event when Heat is able to extrapolate Verloc’s connection to the bombing through the triangular-shaped scrap of material with Stevie’s name and address, the leftover piece of Stevie’s blue coat. Therefore, while Winnie did not actually have anything to do with the bombing, her information about Stevie as being fair-haired gives Heat enough information to conclude that Verloc is really the one responsible for the bombing attempt.

⁵⁸ Just as time seems to stand still in Chapter Eight of the novel as Stevie, Winnie and their mother pass the Treasury, their passage in this chapter marks “dead time” of the text as an immediate experience of a presence of living. Stevie’s bodily destruction alludes to the destruction of the text itself, which is not the subject of discussion, but which nevertheless constitutes the space of “becoming-absent” and “becoming-unconscious” of the subject/attractor Stevie.

⁵⁹ According to Nicholls, the artistic movements developed rather earlier than the literary ones, but the real break for literary formlessness came in out of the French symbolist responses to realism and naturalism; this new formlessness resonated their despair in the face of a hopeless future, as “the failure of metaphysical values destroys the hope that a coincidence between self and world might be achieved through sociality and a shared language” (24).

⁶⁰ According to David Goodway, anarchism was a particular political movement that began around 1860 and mostly died out around 1939, a movement in which its practitioners advocated egalitarian, cooperative, self-controlling individualism, favoring decentralization of government, and spontaneity through direct action of members of society (Goodway 2-3). Hence, for Conrad’s purposes, anarchism was a specific, local, cultural practice.

⁶¹ “In certain chemical reactions, ... a product may also serve as a catalyst for the reaction, driving it to generate more product,” which “in turn becomes more catalyst” (Hayles, *Chaos Bound* 14). Although Winnie never witnessed the actual explosion, she reconstructs Stevie’s death in this scenario within her own imagination, making it into a kind of fiction that reveals how such delay of information is all part of Conrad’s own delayed decoding: “Mrs. Verloc closed her eyes desperately, throwing upon that vision the night of her eyelids, where after a rain-like fall of mangled limbs the decapitated head of Stevie lingered suspended alone, and fading out slowly like the last star of a pyrotechnic display (260). Chemical reaction is exteriorized in Stevie’s death. Like Stevie’s head, in a matter of one or two seconds, Winnie’s image changes, from having “a head of stone” to “no longer stony,” her stare at Verloc changing from passivity to murderous will (260). Conrad combines thermodynamic entropy at this point with his input of information, where Winnie’s transformation is wrought by Verloc’s words: “the waves of air of the proper length, propagated in accordance with correct mathematical formulas, flowed around all the inanimate things in the room, lapped against Mrs. Verloc’s head as if it had been a head of stone” and “the audible wish of Mr. Verloc’s overflowing heart flowed into an empty place in his wife’s memory” (260). Stevie becomes pure energy, pure information, within his definition as a trace, the strange attractor of Conrad’s ethos. Thus, “the resulting dynamics are instrumental in explaining why organized structures can spontaneously emerge from initially small perturbations in the solution,” and iteration within literary system spaces can act similarly, especially in tropes, as their output serves as the input for a subsequent text. Such output of meaning bifurcates through a series of cascades in cultural assessment, much like the lightning-quick chemical reaction in the Professor’s varnish-can bomb, X2 green powder mingled with blood, dirt, and pebbles in Greenwich Park, so indistinguishable that Stevie’s remains must be scooped up with the rest by shovel.

⁶² Stevie is the only “anarchist” who is “mad” enough to bomb the Observatory, possessing “sheer, naked, inglorious heroism” within the Professor’s description, or “reckless” or “ignorant” enough within Ossipon’s description (65). In the first conversation between Ossipon and the Professor in the Silenus beer-hall, the Professor notes that “it is character alone that makes for one’s safety,” and his safety is established because of the “force of personality” he possesses. Stevie, as a human zero, has no such force of personality, so safety and protection, like Verloc’s protection of the “social mechanism,” is not a consideration for him. Stevie does not merely seem deadly, as the Professor appears to be; Stevie really *is* deadly, because he does not know any better. Intention does not matter for a sociopath: the results are the same for the social mechanism, which cannot be protected from their likes.

⁶³ As Jeremy Hawthorn notes, “in *The Secret Agent* there are constant references

to meat and to flesh, and their effect is to bring to our notice a characteristic reduction of the animate or living to the status of a thing,” but ironically, “alongside this is to be found a contrasting animism: objects not possessed of life are treated as if they were alive” (73). He uses as his example Inspector Heat’s inspection of Stevie’s remains on the coroner’s table, in “what might have been an accumulation of raw material for a cannibal feast” (86), also described later in the novel as looking like the “by-products of a butcher’s shop with a view to an inexpensive Sunday dinner” (88). This image is a foreshadowing of Winnie’s “butchery” of Verloc with the butcher knife, which Verloc had carefully laid down beside the roast beef on his table, which Winnie then picks up with which to stab him.

I found a correlation of this scene in Freud’s relation of Shakespeare’s *Hamlet* as an example of the condensation of the work in writing that produces this economy, the economy of death in Derrida’s conception, in which Hamlet states “the funeral baked meats/ Did coldly furnish forth the marriage tables” (I: II:179-181), which of course is cross-referenced to the immediate earlier reference in the play to Gertrude’s “appetites” also in Act 1, Scene II, where Hamlet wistfully states, “O that this too too sallied flesh would melt,/ Thaw, and resolve itself into a dew!” (I: II: 129-130). Freud states that economy of writing serves to get the maximum amount of meanings out of a single image or word, where one must “first transform the expression of one of the ideas into an unusual form until it furnishes an associative connection with the second thought” (655), which functions as wit in the end to displace meaning as a contrast to something else, a representation through an opposite (672-73). Not only does Stevie’s flesh “melt,” as in Hamlet’s description, but is also comparable to the funeral meats served on Winnie’s table, just as Hamlet compares the funeral meats which double to serve for Gertrude’s wedding. From this banquet of the roast beef, Winnie acquires her butcher knife, a grave witticism that references Heat’s inspection of Stevie’s “leftovers.”

⁶⁴ The thematic overlap between thermodynamic entropy and informational entropy was not new for Conrad in the time that he started and completed *The Secret Agent*, as Donald R. Bensen relates in his study on Conrad’s *Heart of Darkness*. “At about the time he began work on *Heart of Darkness* in 1898, Joseph Conrad wrote Edward Garnett describing a recent encounter with one of the new X-ray machines and speculating about a wave theory of the universe,” in which he wrote, “the secret of the universe is the existence of horizontal waves whose varied vibrations are at the bottom of all states of consciousness” (161), where matter is turned into vital force. According to Bensen, it is “necessary to look briefly at the cultural context—including the scientific context—...the crisis of continuity that affected the whole of late-nineteenth-century culture, from Dr. McIntyre’s X-Rays to Conrad’s fiction,” especially the problems that led to this paradigm shift, including views on “matter, causality, consciousness, and underlying

these, space itself,” the radical reconstitution of which is central to the questions of Modernist art (Bensen 162).

⁶⁵ According to Warren Weaver, physical entropy is “associated with a situation [which] is the measure of the degree of randomness, or of ‘shuffledness’...in the situation;...it is primarily this tendency which gives time its arrow--which would reveal to us...whether a movie of the physical world is being run forward or backward” (12). The entropy of Stevie as information occurs when the molecules of his physical body are dispersed in Greenwich Park. As Weaver notes, in communication theory, information is associated with the amount of freedom of choice we have in constructing messages, so that “for a communication source one can say, just as he would also say it of a thermodynamic ensemble,” that the more highly organized and less random a being or message is, the lower its entropy (13). When Stevie’s body is blown to bits, he exhibits a ratio of comparison between his freedom of choice (to carry the bomb and be labeled as an anarchist, for example) as actual entropy, to the maximum value (effect) that his entropy can have. By comparison, then, the reader can formulate the comparison of Stevie as a living symbol to his value as a dead one, a measurement of his informational redundancy.

As Weaver notes, “this is the fraction of the structure of the message which is determined not by the free choice of the sender, but rather by the accepted statistical rules governing the use of the symbols in question” (13). The coding of Conrad’s message in the body of Stevie’s dissipating body, as in itself information, is then transformed from physically significant to informationally significant, when Stevie becomes a trace, a memory, for Winnie and for Conrad’s text. Because Stevie is the moral “heart” of the story, his character demonstrates the crucial shift for the novel, occurring when he dies, for he shifts from caricature being to thermodynamic becoming, from informational being to narrative ethos. The heat and subsequent heat death of Stevie’s “body” produces the work of the novel, the cycle of dynamics for the text’s information. As Robert Andreach notes, “the dismemberment of Stevie is the event that sets off the ripples of movement from chapter to chapter, all of which approach the immense circle in the novel” (81). Vladimir delegates the responsibility of the bombing attempt to Verloc, who in turn delegates it to Stevie, and Stevie’s physical body, once fragmented, leaves the trace for Heat to follow back to Verloc, which the Assistant Commissioner in turn follows back to Vladimir. That tracing would have been impossible without Stevie’s own fragmentation, a refusal to be fixed by such warranting.

⁶⁶ This information theory approach to the entropic measure of a message is in alignment with Ian Watt’s theory of Conrad’s impressionistic technique of the portrayal of his characters’ sensations, to what Watt referred to as Conrad’s attention “to the inside as to the outside, to the meaning as to the appearance” (Watt 179). While Bruce Johnson

maintains that Conrad's Impressionism suggests relativity (and thus indeterminacy) (55), I maintain that it is this very indeterminacy of one meaning for every symbol that molds this novel into the allegory it is: as Stevie's semantic noise increases until he becomes in the novel a trace of his former self, the decoding rate of the reader must slow down to take in the multiple meanings implicit within his allegory. "...Perhaps meaning may be shown to be analogous to one of the quantities on which the entropy of a thermodynamic ensemble [like Stevie or London] depends" (Weaver 28).

⁶⁷ Brillouin states that it is impossible to predict and understand the principles of life completely due to its extreme complexities: one cannot mathematize every single point of possible trajectories a living being can take in the living of life, but both principles of entropy and conservation apply only to an isolated system (92).

⁶⁸ These ideas of the "germ" as catalyst are confirmed by Bergson's notion of the "germ" quality of the individual identity, where instinct is the "sum of accidental difference preserved by [natural] selection" according to Neo-Darwinism (as in Lamarckian theory) (*Creative Evolution* 185), as well as the "germ" as point of bifurcation in modern catastrophe theory. The result of the spreading of the germ's effect is an accidental effect of evolved order.

⁶⁹ Ironically, all of the anarchists suffer from a kind of moral degeneration as compared to their bourgeois neighbors in London, but the bourgeoisie go to the other extreme, allowing their materialistic basis for existence rule over their moral choices. The rest of the anarchists are as bad as the social constructions they want to destroy, because they all have their own ideas of new orders that will replace the old ones, and science was already in the process of being misused by these new age revolutionaries who claimed that their governments were so corrupt. The anarchist's actions seem to be futile, but they leave their mark for future generations to observe when considered in the light of Conrad's literature.

⁷⁰ Chamberlin notes that

degeneration was in many respects a word for something of which both the morphology and the teleology were elusive. ...Degeneration... was a particular item of rhetoric, and a general type of image. ... Its most certain characteristic was that it was the opposite of something else. But even this is a bit too tidy, for nothing was more characteristic of the creative...than a tendency to transform a precise idea of degeneration into the elusive reality of metaphor or metonymy. ...Experts in metaphor and metonymy and therefore in deviations from original types, often

located their subject as well as their language in the complex changes and energies of transformation, of which degeneration was the most familiar image. (Chamberlin, "Images" 267)

CHAPTER III

ATOMIC TRANSFORMATIONS IN THE VORTEX:

EZRA POUND'S CHEMICAL POETICS

VORTEX.

POUND.

The vortex is the point of maximum energy.

It represents, in mechanics, the greatest efficiency.

...

You may think of man as that toward which perception moves. You may think of him as the TOY of circumstance, as the plastic substance RECEIVING impressions,

OR you may think of him as DIRECTING a certain fluid force against circumstance, as CONCEIVING instead of observing and reflecting.

...

THE MAN.

...

VORTICISM is art before it has spread itself into a state of flacidity, of elaboration, of secondary applications. (*Blast!* 153-54)

Ezra Pound's Vorticist manifesto, written for the first issue of *Blast!* in 1914, represents a telling moment in the history of Modernism, for Pound issues some important reactions in it against poetic methods used in the past and suggestions for new poetic goals. This section deals entirely with the figure of the vortex as Pound used it, either implicitly or explicitly, in certain poems throughout his long but bedeviled career. From 1908's *A Lume Spento* until 1969, Pound experimented with figures of speech that would portray the poet's duty and struggle to create literature in a way that would "make it cohere" (*Selected Cantos* 118), meaning that he was concerned with finding a poetics that would pull together the disparate tangle of literature from the past in a way that would

represent for Modernism a new poetics that would combine content with structure consistently and economically. However, this new poetics for Pound represented more of a focus on his own poetic education than it did a consistent critical approach to method, as is evidenced by these poems, which taken together represent Pound's metamorphosis into a mature poet. Influenced early on by W.B. Yeats' experimentations in metaphysics in poetry, as well as by many scientific theories of the day, Pound set out to make his own alchemy of poetry.

Fin de siècle societies of North America and the European continent of the early twentieth-century begged for some order to come out of the vortices of turbulent activity of their cultures. Every culture demands its own models of behavior and ideals, but these are governed by their distributions of *power*. Literature was one such discipline that was expected to have some kind of ideal form on which artists could fall back. Ezra Pound found his ideal aesthetic model in the forms of the atom and the vortex, and in my studies of his poems, found some connections between the two to suggest how Pound used these tropes to form an allegory of his own artistic development as a relationship between his expression of power and the forms of words. I will focus on several of Pound's poems, including 1908's "Plotinus," its connection to his 1911 essay *I Gather the Limbs of Osirus*, work into the 1913-1915 era that culminated in his 1914 production of his "Vortex" manifesto and his metaphor of the turbine as vortex, and see his vortex expanded in the 1918-1945 production of his *Cantos*. The model of the atom is a scientism representative of the motive powers of the artist to produce art, while the model of the vortex is the space in which those powers flow in culture. These symbols are scientisms because they are merely conventional symbols for Pound's abstract metaphors and metonymies.

“Plotinus”: The Artist as Atomic Soul

Pound’s vortex is a conceptual model that is connected to the concept of the atom as a metaphor for himself as poet, which appears first in “Plotinus,” a poem published in 1908 in *A Lume Spento*:

As one that would draw thru the node of things,
 Back sweeping to the vortex of the cone,
 Cloistered about with memories, alone
 In chaos, while the waiting silence sings:
 Obliviate of cycles’ wanderings
 I was an atom on creation’s throne
 And knew all nothing my unconquered own.
 God! Should I be the hand upon the strings?! ...
 And then for utter loneliness, made I
 New thoughts as crescent images of *me*. (36)

Of prime importance to this poem is the provocative idea that the atom described is the poet, a position which Hugh Witemeyer affirms in *The Poetry of Ezra Pound: Forms and Renewal, 1908-1920* (1969), citing the lines in “Plotinus” where “each artist makes ‘new thoughts as crescent images of *me*’ ” (51). This poem expressly tells the story of a poet, alienated by his political and artistic beliefs in an uncaring world, whose art is the result of his exile, an exile which is specifically Pound’s political and artistic position in time and space, from which his subject matter arose: “[the artist’s] subject matter is that chaotic world which he cannot escape. But he strives for the still center to gain the necessary stance of detachment [objectivity]” (Dasenbrock 227). In this poem, the individual artist represents the space of a larger identity, namely the human cosmos. Characterization through bodies in specific contextual spaces within Pound’s theories and poems, whether in prose or poetic form, is essentialized into specific models in order to produce the work of the *Weltanschauung* and the *Zeitgeist* of the Modernist epoch, working as machines for

change, and ultimately, for systematic transformation by the power of each word, building the structure of poetry through context, just as atoms form bonds with each other to form molecules. I will start this chapter with Pound's reductionist atomism as structural "acorn" or seed (as Pound would often refer to the germinal potential of literature's semantic potential),¹ beginning with the idea of the atom as individual spirit, then expanding into his use of the trope of the atom as syntactical word-unit.

Even in modern dictionaries, the word "atom" continues to defy set definitions, taking on metaphorical significance: while it is an "indivisible, discreet and concrete particle," it is also defined as "a logical construct that is formed from such basic units," "an element that is considered to be ultimate or unanalyzable for the purpose of a given system," and also "a small individual unit usu. viewed as a relatively independent member of a group <every man is a social ~>" ("Atom").² Pound's attraction to the atom as ultimate structural unity is understandable: its essential form provides a revelation of "the composition and structure of every possible word" implicit and explicit within an ideogram (Weininger 41). One can see this method applied directly in such poems as "Plotinus," where the trope of the atom represents the power of the artist, or in "In a Station on the Metro," where words themselves are troped as atoms: based upon its concise form, where each word is condensed with imagery and connected to other words in its immediate context to form an entire picture. Such economy later became one of Imagism's most important features, and a notion that Pound would cling to for the rest of his life. As applied to words-as-units, atomism constitutes linear and sequential structure where one influence can definitely be traced from one context to another in a direct line of cause and effect, as a universal model of coherence and unity. Pound uses the atom as trope in "Plotinus" as the root metaphor for his role as creator of cultural energy, a trope that

depends upon the conception of atomism. “Plotinus” initiates Pound’s long association with the atom, the creator of vital energies, as the center of his “vortex.”

“Plotinus” is the initial signpost in Pound’s career that directs his audience to the ideal aesthetic power of the vortex as the culture of London. Within the structure of the poem itself, I found it intriguing that within the first eight lines, Pound establishes connections between himself as poet (“one that would draw through the node of things”), the space of the “vortex of the cone” as chaos, and himself as “an atom on creation’s throne” (*A Lume Spento* 36). The structure of the first two stanzas significantly links the second line of the first stanza to the second line of the second stanza by following an abba cbba rhyme scheme; the significant linkage between the “vortex of the cone” and “the atom on creation’s throne” must not be ignored as incidental, in this case, since the atom is Pound, as creative artist, and the vortex is, according to Pound’s own admission in *A Memoir of Gaudier-Brzeska*, that movement to establish artistic identity. Pound states, “in the ‘search for oneself,’ in the search for ‘sincere self-expression,’ ...one says “I am” this, that , or the other, and with words scarcely uttered one ceases to be that thing” (85). “Plotinus” signals the connection between the motive power of the artist as “atomic” generator to the vortex, “the point of maximum energy,” as he later defines it in 1914’s *Blast!* manifesto, the cone of artistic creativity that creates an aesthetic culture of poetics. Where Pound managed to pick up these physical metaphors, however, is the source of some confusion due to many influences, both Western and Eastern.

Ian Bell suggests that John Burnet’s *Early Greek Philosophy* of 1892 may have provided Pound with the word “vortex,” from the Greek atomist Leucippus’ idea that “ ‘the worlds come into being thus...borne along by ‘abscission from the infinite’ ...many bodies of all sorts of figures ‘into a mighty void’, and they being gathered together

produce a single vortex' ” (qtd. in Bell, *Critic as Scientist* 146). Pound's notion of the mechanics of the vortex cone derives primarily from two essays by famed German physicist Herrman von Helmholtz, “On the Conservation of Force” (1847) and “On the Integrals of the Hydrodynamic Equations which Express Vortex-Motion” (1867), the first of which demonstrates the applicability of conservation of force in all natural processes, and the second which proposes “a microcosmic version of the Greek atomists' cosmologies,” where the movement between the vortex rings in atoms was proposed to be the basis for the constitution of all matter (I Bell, *Critic as Scientist* 159-65). As Bell notes, Pound left evidence of his reading of these essays when he took the pseudonyms of “Bastien” and “Baptiste” von Helmholtz, as well as “Herrman Karl Georg Jesus Maria” in some of his 1914 essays, the same year he began the London vortex (*Critic as Scientist* 159). Exactly when Pound read Helmholtz is unknown, but this metaphor of vortical cosmologies moves *A Lume Spento* in poetic themes in which he first writes of Longinus' sublime which influences Pound's “singing spheres” (*A Lume Spento* 36), and “Plotinus,” where in the vortex cone's chaos, he is “oblivate of cycles' wanderings,” to the connection between the enlightenment of the sun and the poet's “flame” (*A Lume Spento* 36-37). The connection between Plotinus, Plato and Burnet occurs in this ideal of the sieve as Pound's interpretation of the nature of “becoming,” the process of changing for all material (and through this trope, spiritual) bodies, as Plato outlines it in the *Timaeus*. The sieve is a geometric scientism that encrusts the internal meaning in an external form in order to demonstrate the author's ethos or ideology in such a way that is less intrusive than simple exposition.

The cultural hegemony of dominant practices looked to universal models to reinforce their superstructures. Pound tended to cling to such notions as well. As he

looked for new methods to express his subversion of dominant paradigms, he called upon classical models of universality, totality, and unity of structural integrity, where the “concept of a totality of practices is compatible with the option of social being determining consciousness” (Williams 457). He poses a transcendence of fragmentary complexity, which excludes any possible reading of such practices as deterministic, influential, and controlling, in the final analysis, through identification based upon linearity, coherence, and cohesion of rhetorical and semantic mechanics and rational analysis. The axes between power, persuasion, science, and rhetoric come together in the figures of speech of the Modernists I am studying as self-referential models that demonstrate a union between epistemology, ontology, rhetorical strategy, and aesthetic art. The effects of power, for example, need to convey themselves as self-referential causes/effects, which are established through the codes of language. The economy of such power goes back to theories of atomism, which were discarded by theorists during the Dark and Middle Ages for a cosmology based on faith via Christianity: God was generally designated as the cause of all effects, a belief also held by the Greeks.

The atomism of the Thracian Democritus (460-370 B.C.), was based on Leucippus’³ argument that nothing comes from nothing (the chicken/egg dilemma), the classic theory from which modern mechanical science springs. Democritus expanded this theory to include that everything happens from some cause, which is the basis of what modern science regards as *a priori* of all scientific inquiry (“Atomism” 51); this view had a great deal of ballast in early twentieth-century views concerning sequential organization in art. Atomism refers to a philosophy of one-way cause and effect interaction.⁴ Democritus expanded Leucippus’ argument to include that iterative equations could include the symbols used in language, and Epicurus and Lucretius were known for

atomistic theories, as well. In other words, the function of the atom is as an object of classification, but one in which all things can be classified, since all elements that make up matter are made of these fundamental units; definition of identity depends on this classification, so that we understand that the *naming* of objects in science affects the naming practices of all other disciplinary fields. As Carl Hempel explains, scientific terminology functions first to describe phenomena (things and events), and secondly, to establish general laws and theories by which particular phenomena may be explained, so atomism functions both as a taxonomy and an ontology (137, 139), a classificatory system and a philosophy of existence, a taxonomy. As M.H. Abrams offers, “the equivalent problem of explaining design in the physical universe had been the stumbling block of a mechanical philosophy ever since the atoms of Democritus,” and atomism had its resurgence of popularity as early as the seventeenth-century (164).⁵

According to Manley Hall, Democritus’ version of atomism is responsible for the idea that the soul is atomic in structure, derivative of Pythagoras’ doctrine of the *Monad*, which signifies God as the “all-including ONE,” “the sum of any combination of numbers considered as a whole, such as the universe and all its parts, where structure is dependent exponential growth from one seed (14, 70).⁶ Thus, the revival of atomism around the sixteenth and seventeenth-centuries produced many subsequent scientizations involving the transference of energies through the chemistry of atomic interaction, which had the potential of exposition and analyses of causes and effects.⁷ Pound was influenced in his thinking of the atomic soul by Oliver Lodge’s *Pioneers of Science* of 1893, which demonstrates the forms generated by numerical manipulation in analytic geometry (I Bell, “Modernist Spirals” 18). According to Ian Bell, Lodge’s book was originally conceived

as a series of lectures on the history of science, including lecture VI, “Descartes and His Theory of Vortices.”⁸

Pound used the figure of the atom in conjunction with the figure of the vortex specifically within its metaphysical unity and power in “Plotinus.” In “Plotinus,” the narrator Pound identifies himself *as* an atom, a metaphor for his own subjective individual role as an artist, and furthermore, setting himself in a class apart from as part of the artistic community. The atom appears to be an apt metaphor for all of these functions, carrying in its miniature form the capacity for action, the identification of the artist, and his social purpose. In order to understand a whole poem, one must understand its components, and if one of those components is the artist himself, then one must also analyze that particular part, especially since Pound is using the trope of the atom to describe his own creative ability. For Pound, force is a question of the application and control of energy, or what the Germans referred to as *Kraft*. This “natural” energy comes from the artist’s “generative” powers of creation of art, meaning that the artist’s ability to manipulate his media, or what Pound came to refer to as the “prime pigment,” comes from a germinal or “atomic” growth in the consciousness of the artist, extending out into the artwork itself, which is then redistributed as energy that energizes culture.

This organic growth matrix follows from the atomic level, to a condensation at molecular level in the trope of the crystal and crystallization of subject matter, where the external matter is intended to symbolize Pound’s understanding of the internal psychology of his age. Pound believed that precise language presented within a hyper-economic form might be capable of extracting a form consistent with exact meaning, while presenting an implicit metanarrative view of the how he went about structuring his poetry. With such a poetry, Pound believed he could mediate his “modern” message to the jaded sensibilities of

modern audiences, whose views on form were changing rapidly due to many new discoveries made of the atom's significance (Bell, Harmon).

According to James Thomson, such a material vortex requires a definite creative act to move it, since the perfect fluid would necessarily be frictionless, continuously filling space (Smith 254). In "Plotinus," Pound implies that the mysterious power of vitality lies within the will of the poet to create, using the materials of his trade, the "prime pigment" of his art, in the poet's case, the word in exact proportion and position of syntax, in order to create contextual meaning with the most potential for meaning for an audience. Pound's vortex initiates a cultural field theory where words are equated with atomic vortices, with their energy generated at their spindles by the artist. James Clerk Maxwell and Hermann von Helmholtz both agreed that such power must have agency behind it, so that all physical matter must have some directive impetus (Smith 249).⁹ This statement questions the motive of such power: both scientists emphasize the need for motive power behind material transformation; therefore, when Pound went to develop his poetic heuristic, this mechanical action, combined with the idea of its need for a definite *anima mundi*, must have appealed to him.

The relation between an "atomic" power of poetic impetus and the forms it generates is not something that can be mathematized. However, when only the forms of linguistic signs (ideograms) are considered geometrically, their signs *can* be mathematized as geometrical figures, as long as they have a one-on-one relation that is obvious to the reader. Sometimes it is difficult to assign exact signification to Pound's signs, especially when symbols have multiple significations, despite his own claims of intention for meanings. The vortical motion of atomic energy would provide the "action" necessary for the "atomic" author to change the world around him by his "molecular" growth into

culture; in addition, this “molecular” growth could be seen in the form of the poem itself, where the word of the poet/god could become the fact of reality, mirroring the Biblical genesis where the word of God becomes matter itself.

In scientific fact, Democritus’ argument concerning the existence of atoms turned out to be somewhat correct, but one must remember that even the Greeks developed their scientific theories from their rhetorical strategies first.¹⁰ Up until those discoveries, belief in Democritus’ positioning of iterative qualities in nature got twisted somehow over the centuries into application of that idea for linguistic composition: that words are *like* atoms, discrete units that build up to make matter, only in literary applications, such scientific twisting of atomism refers to poetic/narrative heuristics. In terms of linking mind to matter, Abrams outlines this process as a matter of association¹¹ (163). Abrams reveals that philosopher/scientist David Hume drew parallels between associative principles and laws of gravitation within terms of the idea of rhetorical cohesion as a kind of attraction and unity, and David Hartley then theorized that “association of ideas frankly becomes the introspective correlate to the operation of the mechanical laws of motion in the nervous system” (Abrams 163). Finding an object to match the idea was a matter of boiling down its motive forces to its source of transmission.¹² Logic was needed to mold natural chaos into cultural perfection.

Atoms became the logical models for such perfect (seemingly) irreducible units during the modern era, and therefore, were seen as the most perfectly regular, symmetrical structures in nature, which explains why artists sought this structure out for imitation in art; atoms contain the potential for vitality, action and reaction, while maintaining the perfect symmetry for repetition and regularity, the most economical units for the expression of the unification of energies. However, the atom, while presenting the ideal

image of irreducible unit interacting with other atoms, is a structure that still had enough unknown qualities to present difficulties in its use as metaphor, and Pound's use of the atom as a center of power must be questioned. Atoms also provide the most rational model to demonstrate cause and effect of context in word syntax, where groups of words (indeed, even groups of vowels and consonants) form a particular interpretative "chemistry" by means of their "molecular" combinations. In "re-presentation" or "re-creation," the poet takes on the role of God, making word-worlds from the energy of their own minds.

In "Plotinus," certain lines indicate Pound's ambivalence toward assuming Apollo's creative role in the creation of poetry, the music of the spheres: "And knew all nothing my unconquered own./ God! Should I be the hand upon the strings?!" (*A Lume Spento* 36). He then goes on to state that out of "loneliness" he creates "crescent images of me" (*A Lume Spento* 36), much in the manner of a Biblical genesis of the creation of the world. As an "atom," Pound would be able to generate power in the chaos of the "vortex," the culture of Modern times. This idea underlines the idea that Pound was attempting to find a material basis in which to couch his concepts, as well as describing the process of his writing as part of that discursive signposting as the element of power-play in the relationship between the artist and his work. This ability of consciousness within the human body, as the "Vortex" with an "atomic" motive power at its center, infuses Pound's metaphysics.

This directing power was what Pound was looking for as an organizing principle for poetry, as Peter Nicholls indicates: "Pound was struggling to find some connection between associative and juxtapositional contexts in language and the 'organisation of forms' in a visual art moving towards abstraction, but his work at the time of *Blast!*

continued to show a real uncertainty about what might constitute a properly ‘modern’ writing” (174). The direction of creative energy was important to Pound’s formulation of a new poetics which could emblemize the vital forces of the poet’s imagination (motive power for moving the world plus a correlative aesthetics). The relationship between form and the energies it holds is of primary importance in Pound’s poetry.

Indeed, the ideal of centrality is important to Pound’s formation, but it is a very complicated, complex choice of models, one having both philosophical and formal import. Pound’s choice of cosmic systems is comparable in this respect to Dante’s construction of the vertical gyre as spiritual journey of the poet. Pound appears to ignore the differences between physics and metaphysics in this respect, centering upon author’s purpose, which is irrational in comparison to post-Renaissance scientific “fact” and methodologies. His symbolist and decadent influences of Swinburne, Rossetti, Johnson, Symons, and Yeats led him to find ways to express this emotional and spiritual journey through “visionary ways of knowing” (Knapp 54). When Pound met Ford Madox Ford, Ford insisted “that a ‘natural language’...be found” (Knapp 55). As Michael Levenson states, Pound noted in a letter to Harriet Monroe that “Ford Madox Ford had been hammering this point of view [the praise of objectivity] into me from the time I first met him (1908 or 1909) and that I owe him anything that I don’t owe myself for having saved me from the academic influences then raging in London” (qtd. in Levenson 105). This process of learning for the poet is documented in Pound’s use of the vortex as a metaphor for his poetic education. In his struggle from 1908 through 1945, his vortex evolves as the serialization of poems through the autobiographical *Bildungsroman* of his career as poet, within himself, the atom distributor of poetic energies. The vortex begins as this spiritual artistic voyage in artistic chaos, mapped within the physical “facts” of nature and civilization.

Between 1908 and 1913, during his time at the Stone Cottage retreat, Pound engaged in finding apt metaphors for his artistic design processes, all of which were influenced by Yeats' composition theories of discordia concors¹³ and dissociation of sensibility,¹⁴ where thought becomes experience in the poetic intuition towards forms, and where the poet "feels thought" with an immediacy that combines with the poet's previous experiences within terms of a mechanics of poetic reading (Eliot *Selected Essays*). Even until the end of his life, Pound struggled to convey in exact terms how the poet could accomplish such perfection of form. William Harmon reveals that Pound was also influenced during that time period by T.E. Hulme's "Bergsonian image of a fluid spirit of art interacting with static local conditions," corresponding with art movements of past, present and future through the "mechanism" of the body,¹⁵ as revealed by Pound's *The Spirit of Romance* (8). According to Harmon, these figures suggest influences of Bergson, as well as Coleridge, and formed the early basis of his ontology and epistemology, problematizing his aesthetics with the question of how to unite the world of the ideal with the world of forms (Harmon 9). Levenson confirms Hulme's Bergsonian influence on Modernist poetry,¹⁶ noting Hulme's distinction between geometrical and vital art, and the correspondent movement in Modernist reaction to Renaissance humanism in 1914 (97). By 1914, Pound's attitude also shifted "from a social justification for art [the focus of many of his poems up until that time] to a view of art as a willed assault on society" (Levenson 120).

In 1913-1914, Pound stayed with W.B. Yeats' at Stone Cottage, met Mary Fenollosa (who supplied the Eastern mystical influences of Fenollosa's notebooks, from which he translated the *Rihaku*), and Gaudier-Brzeska, which may explain his odd mix of Western and Eastern epistemology and ontology. According to Derrida, Fenollosa's

influence on Pound was considerably important to the deconstruction of transcendental authority and the concept of being in Western literature, since this “mechanics” of poetry becomes “irreducibly graphic,” thereby decentering and dislocating the sign’s linkage between signifier and signified (Derrida 91, 92). Fenollosa’s influence on Pound works to bring the reader to question writing as an analogical system, where the ideogram, as a “collection of things or a chain of difference ‘in space’, ” is linked to the sounds inscribed within a linguistic chain, thereby revealing that it is ideogrammatical, that is “synthetic,” and “cannot be decomposed” (Derrida 90). However, as Derrida points out, when the sound itself is considered as an “atomic element itself entering into the composition,” then “we are dealing then with a script apparently pictographic and in fact phonetico-analytical in the same way as the alphabet” (Derrida 90). The phonetic qualities of Pound’s poetry lend themselves to rejoining speech and writing by actually showing their separation at the “atomic” level of composition, which is revealed in poems like “At a Station in the Metro.” One not only *sees* the composition, but must also read the poem aloud in order to break down the metaphors used.

To “flesh out” his vortex within physical terms, Pound used Yeats’s conception of correspondences, derivative from Pater’s transcendental explanations of Swedenborg’s conception of “Correspondences” in his essay *The Sonnets and Ballate of Guido Cavalcante* of November 1910 in order to explain his own notion of the “spherical” perfections of “character”¹⁷ (Longenbach 55). This set of correspondences occur in Yeats’ poems, like 1916’s “The Second Coming,” where “the widening gyre” of the falcon represents the end of one historical epoch and the beginning of another, where “Things fall apart; the center [of this cycle of history] cannot hold” (3). Pound’s Ptolomaic astrology may seem “logical,” but he seems to ignore the heliocentric interpretation of the solar

system, a scientific paradigm shift that took focus off of the world as a “pivot” (with its emphasis upon man’s superiority) and shifted its focus onto cosmic, rather than spiritual, forces. The very title of “Plotinus” signals the Pythagorean monad in use.¹⁸

“Chaos” appears in “Plotinus” as part of the vortex itself, and the poem that appears in direct succession to “Plotinus” in *A Lume Spento* is “Prometheus,” thus connecting the two poems to this idea of the *Monad*. As Ira Livingston notes of the Yeats’ notes on his own gyre in “The Second Coming,” this gyre figure, equivalent to Pound’s vortex, is correspondent to “a great egg that turns inside-out perpetually without ever breaking its shell’ ” (Yeats qtd. in Livingston 62). This is the Orphic Egg according to the Monadic philosophy as shown in Figures 3.1 and 3.2, the macrocosm and microcosm wrapped up in the form of the human body and consciousness, and what Pound referred to as the germinal spirit of the artist.



Figure 3.1. The Orphic Egg, Symbol of the Signified Cosmos, Encircled by the Fiery Creative Spirit, the Soul of the Philosopher (Hall 20)

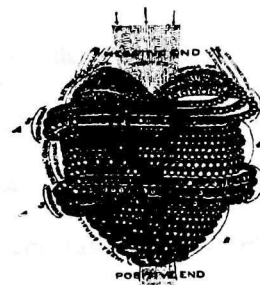


Figure 3.2. Babbitt’s Atom (Hall 13)

The space of the atom becomes the human body as microcosm,¹⁹ in “Plotinus” a reification of the relation between the poet Pound and the vortex in which he must create; the polarities of exponential form balance each other. The transformation of the human body in “Plotinus” through the metaphor of the atom is a kind of linguistic sleight-of-hand,

a metamorphosis that is intended to reflect the artist's personal learning experience as a writer in his discoveries of his talents. As Joseph Riddel notes, "Pound read Ovidian metamorphosis as an irrepressible depositioning or degrammatization, as an overthrowing of the morphyic or structural rigidity from the inside" (197) as a natural model of language, the kind which Ford Hueffer Ford implored him to find. Likewise, Martin Kayman confirms the metamorphosis schema as Pound's "magic moment" (83), but one in which art becomes a kind of science in itself, a metacritical narration in which knowledge becomes fact.

In artistic metamorphosis, the individual artist must go through a period of productive growth, where "consumption (that process most tending toward stasis, toward the present) is not separated from productive labor, with no differentiation between past, present, or future" (Bakhtin 207).²⁰ Pound takes a Platonic autobiographical view of the chronicle of development of self-consciousness, the process of *becoming* self-conscious for the artist.²¹ This process of collective time is the one he attempts to describe in "Plotinus," and the one he continues to propose throughout the Vorticist movement.²² As Pound illustrates, the atomic growth of literary structures is a subtle process that develops according to the poet's own "involution," an ingrown centralization of becoming that is psychological for the poet, but which eventually produces the works that distribute through the world by their own vortextual energy, having a cumulative effect to form literary canons by way of their own categorical status. One can observe Pound's own "becoming" in his art object/poems, where his own "involution"²³ as poet is his focus.

In 1918's *A Memoir of Gaudier-Brzeska*, Pound states that the artist must "create from himself or from elements" (98), deriving from a lecture he gave at the Rebel Art Centre of Ormond Street in London, and appearing in the September 1914 essay of the

Fortnightly Review, specifically regarding Vorticism: “In the ‘search for oneself,’ in the search for ‘sincere self-expression,’ one gropes, one finds some seeming verity. One says ‘I am’ this, that, or the other, and with the words scarcely uttered one ceases to be that thing. I began this search for the real in a book called *Personae*, casting off, as it were, complete masks of the self in each poem” (*A Memoir of Gaudier-Brzeska* 85). While Pound states that his Imagism was not symbolic, allegorical, or metonymical (*A Memoir of Gaudier-Brzeska* 84), I believe that Pound may have aimed at a similar goal as the modern novel writer, but because his genre is modern poetry, its emphasis firmly based in metaphorical association, where a totality of specific meanings to the point that such disunities cannot dissimulate into the transformative mode that Pound aspires to create with his aesthetic. If “the imagiste’s images have a variable significance, like the signs *a*, *b*, and *x* in algebra” (*A Memoir of Gaudier-Brzeska* 84), then logically, such signs do not necessarily exclude metonymy or allegory, especially if one applies the vortex as the structural form of his poems. He is describing the form of a syntagm, the very “horizontal” plane he wants to avoid in “Before Sleep” in *Blast!* of 1914, where he is “caressed” by the “lateral vibrations” of electromagnetic resonance and atomic valences.

I. The lateral vibrations caress me, ...
 The gods of the underworld attend me, O Annuis. ...
 Undulent,
 Their realm is the lateral courses.
 II. Light!
 I am up to follow thee, Pallas.
 Up and out of their caresses. ...
 Bending your passages form right to left and from left to right
 In the flat projection of a spiral. (*Blast!* 47)

The syntagmatic horizontal plane and the paradigmatic vertical plane²⁴ must work together in order for words to make sense. In this context, the persona becomes a kind of

mask, a form of absentia, for authorial subjectivity, where Pound's disappearance and invisibility allows him control without too much digression and ironic interference. The atom as figure becomes such a mask for Pound, which enables him to "disappear," yet "energizes" his poetry by his will.

The author's mask is the figure of the atom, an egocentricity from which all the energies of the poem evolves. The subject of its energies is the artist's transformation into awareness of art, using allusions to Greek myth to recreate already established personae.²⁵ Pound read John Burnet's *Early Greek Philosophy* (1892), which is heavy with the implications of atomist theory, where Pound appears to have latched onto the image of the atom as the basis for his vortex.²⁶ The atom is a handy metaphor for such a subject of transformation, a mask for the author's purpose, but as a part of the vortex, or as the vortex itself, it has limited application. 1908's "Masks" explains Pound's tendency toward alienation and exile as a protective device against criticism.²⁷ The figures of the atom and the vortex deceive their duplicity of symbolism a means of critical defense.

The "becoming" of the poet begins with Pound's development of persona within his poems, including narrators, a cast of *dramatis personae*, and their settings. Pound later termed this form as the "Absolute Metaphor" of Imagisme, which is meant to cast of masks of the self in each poem as "states of consciousness," in which the imagiste's images "have a variable significance, like the signs *a*, *b*, and *x* in algebra" (*A Memoir of Gaudier-Brzeska* 84-85). "Plotinus" has only a hint of this mathematical quality, using first the forms of the vortex cone and the atom to pose metaphors for this poetic potential. To begin to explain such a formation is to roam into the territory of geometrical forms as models, where exact structuring according to mathematical principles becomes necessary. I must move back to 1911 to explain how Pound's geometry of forms developed.

The Energy of the Vortex: Pound's Analytical Algebra of Forms

The very title of *I Gather the Limbs of Osirus*, the instrumental essay through which Pound first articulates the equation of poetics with mathematics, indicates a fascination with the artifactuality of linguistic forms, with the idea of descent and resurrection through a piecing together of that which has been fragmented, in order to empower its animating energy. By 1910, Pound proposed “that ‘Poetry is a sort of inspired mathematics’, instigating certain equations for human emotions” (*Osirus* qtd. in Ian Bell, *Critic as Scientist* 139). By 1911, in *Osirus*, Pound first articulated his rudimentary efforts at a new kind of poetics, aiming primarily at demonstrating a conservation of the poet’s creative energy through an absolutely precise and concise use of words. “Permit me one more cumbersome simile, ...about the masterly use of words... . Let us imagine that words are like great hollow cones of steel of different dullness and acuteness; I say great... because I want them not too easy to move; they must be of different sizes” (*Osirus* 34). Pound is using an epic simile to describe the motion of words as cultural formations in this essay. The combinations of symbols here are important to Pound’s formulation of associations between the vortex and himself as a generative “atom.” “Apexes,” “cones,” “radiation of force,” “positive and negative electricity” or “force,” and “vertices” are all physical and chemical metaphors that use the imagery of material atomic structure to meet an allegorical need for equation of ideological values to physical ones: he is describing how the vortex of London culture works.²⁸ As Mary Hesse explains, the relationship between analogy and mathematical proportion of form occur as correspondences between identity, difference, or causation of properties of things analyzed, so that drawing material analogies between observable sets of characters enable

predictions to be made from models in question (68). In Pound's case, the atomistic "characters" reveal the action of their systems. By comparison of correspondences (degrees of similarity), one can extrapolate relationships between things, and distinguish between the taxonomy of homologies (where "organs in different species...are structurally the same organ, that is, correspond in position and connections relative to the whole organism and are made up of corresponding parts") and analogies (where parts or organs have the same function, whether or not they are homologous) (Hesse 81). In homology, similarities of structure function to point out identity, while in analogy, similarities of function point out identity (Hesse 82), excluding causation. Pound's geometrical systemization of positive and negative forces, with characters of x and y, would simply imply an induction of relationships based on the probability of correspondence and occurrence. Therefore, the function of naming really has nothing to do with causation of phenomena described, but is simply "an ad hoc description of observed similarities, and therefore [is] not providing any proper theoretical basis of classification or prediction;" it is simply an observation of correspondences which may or may not predict causal relationships (Hesse 83), which brings up the valid question of how Pound can initiate a model intended to represent a material thing in reality, and then take it to represent something purely imaginary.

Much of Modernist thought revolves around the questions of what constitutes reality and what constitutes the imaginative, and Pound shows that the two overlap when the "imaginary" is made reality through the impetus of poetic action. Therefore, I must question the relationships between the symbols used in *Osirus*, as well as what they represent. Like Russell's atomist theories, Pound's appears to be a system of symbols that serve to describe a particular proposition, not a general law of poetics. The *Osirus* essay

attempts to give a description of the polarized energies of poetic sensibility as they are exchanged from poet to audience, again alluding to the poet as the source of those energies in the manner of the molecular bonding of atoms in the poetic community that makes up this vortex as culture in London. According to *Osirus*, “this peculiar energy which fills the cones is the power of tradition, of centuries of race consciousness, of agreement, of association; and the control of it is the ‘Technique of Content’” (34). Pound’s identity as atomic generator of poetic energies is mathematized in *Osirus* as potentially exponential for the generation of meaning.

As Stephen Weininger indicates, the heuristic capacity of traditional atomism is essentially reductionist, derivative from the valence proposed “about the combining power of atoms, a postulate that played a decisive role in the formation and validation of the molecular structure hypothesis” (43), which “provided chemists with an extremely powerful heuristic principle that organized the knowledge of the past and shaped the research of the future” (41). The chemical structure of the atom as model explains “the number of each type of atom in a molecule, but not the order in which they are connected [as contextual meaning in the simile] nor their three-dimensional arrangement in space [syntactical heuristic as formula]” (Weininger 40-1).²⁹ In *Osirus*, Pound explains his chemical metaphors through analytical geometry. Hugh Witemeyer explains this influence in *Osirus* as the result of Walter Pater’s critical methods, rather than his impressionistic aesthetic approach: “Pound was attracted by Pater’s idea of a critical method which analyzes the virtue of a work ‘as a chemist’ analyzes ‘some natural element’,” explaining that in Pound’s *ABC of Reading*, “he advised a similar procedure based on the science of biology: ‘The proper METHOD for studying poetry...is the method of contemporary biologists, that is careful first-hand examination of the matter, and continual

COMPARISON of one 'slide' or specimen with another' ” (*ABC* 17, qtd. in Witemeyer 9). Chamberlin also notes Pater's influence in Pound's critical method.³⁰ This “virtue” of the biologist coincides with that of the chemist when Pound “atomizes” this method: he goes from the more superficial study of poetic phyla to a breakdown of its composition through “atomic” form and its origins.

In the October 15th, 1913 edition of *The New Freewoman*, Pound compares literary composition to that of the science of chemistry in “The Serious Artist,” stating that “the arts, literature, poesy, are a science, just as chemistry is a science. Their subject is man, mankind, and the individual. The subject of chemistry is matter considered as to its composition” (I: 1), and both Pound and Wyndham Lewis use chemical analogies in *Blast!* to introduce “the chemistry of the Present” where a “new Living Abstraction” is produced (Lewis *Blast!* 147). Chemistry allows Pound to infuse his poetics with a life force, as well as demonstrating a model in which the form is the content, where the poet “transmutes,” in his words, the elements of poetic rhyme, organic unity, and musicality. The “organic” unity of the poem is derived specifically from its minute composition.

Pound extracted an economic poetics based upon the tropes of physical laws from Hudson Maxim's *The Science of Poetry and the Philosophy of Language* (1910), which provided a scientific basis for literary critical procedure which proposed that the world is a series of forces, which “was what made possible the use of science to claim ‘reality’ for the mystical temperament... by the transcendentalist leanings of Pound (I Bell, *Critic as Scientist* 142). Maxim states that “poetry obeys the law of conservation of energy” when “a thought is presented with the utmost economy of word symbols... selecting only those most pregnant with meaning, and this conserved energy is utilized by the hearer in perceiving the thought with unusual form and vividness” (I Bell, *Critic as Scientist* 161).

Pound's vortex is an economy of poetics and the poet's creative reserves, Pound's Law of Conservation, rather than Thomson's. As Peter Ackroyd reveals, "Pound spoke of the struggle within his work 'to keep the value of a local and particular character, of a particular culture in this awful maelstrom, this awful avalanche toward uniformity. The whole fight is for the conservation of the individual soul' " (96); yet this "fight" for the conservation of the soul is clearly indicative of a move toward unity of self, which implies a unity in culture, as well. Like Thomson's atomic vortex, Pound's vortex is meant to represent the available transformable energy of the poet's creative powers into visceral forms within the poem itself, where the direct will of the artist transforms the dead letters of words into motive power to move the world. Pound had the old problem of subjectivity and objectivity to deal with, so he combined Lodge's Cartesian sense of being with Maxim Hudson's notions of poetic economic circulation.³¹

Pound used geometric figures as metaphors to achieve a certain equation between the potential of words as packing "concrete" meaning and the potential of abstractions, as *Osirus* so clearly illustrates. According to *Osirus*, the "force" of words must be mapped in some way, and Pound uses algebraic symbols to represent the values of positive and negative meanings: "Let us imagine them charged with a force like electricity, or rather, radiating a force from their apexes--some radiating, some sucking in. We must have a greater variety of activity than with electricity--not merely positive and negative, but let us say +, -, x, -, +a, -a, as, -a, etc." (34). Algebraic analogy implies an ability to multiply meaning exponentially, to replace potential meaning as *x* or *y*, replacing known factors and extending their values as hypothetical meaning, as *possibilities* of meaning.³² Algebra acts algorithmtically to exhibit clear values in its simpler forms, which is why mathematicians prefer its language to that of hermeneutic speech and writing. Its values

act economically to supply a maximum amount of information in the simplest forms possible. Pound had the old problem of subjectivity and objectivity to deal with, so he combined Lodge's Cartesian sense of being with Maxim Hudson's notions of poetic economic circulation.

According to Bell, Hudson Maxim, author of *The Science of Poetry and the Philosophy of Language* (1910) "did much to focus Pound's attention on economy of force" (*Critic as Scientist* 161), a notion which Maxim derived directly from Helmholtz's July 1847 paper/lecture "On the Conservation of Force" at the Physical Society of the University of Berlin, which "established mathematically the principle of physical forces which later provided the basis for Kelvin's law of thermodynamics and a prime model for field-theory physics" (*Critic as Scientist* 161). Upon reading of Hudson's theories, Pound proposed a model of poetic economy that reflected the most streamlined form with the greatest potential for audience interpretation of meaning: meaning provides this "force," expressed by the poet and re-circulated into culture. The perfect poem in Pound's conception would be "frictionless," possessing the greatest motive powers, held in the stability of the artist's own consciousness by the artist's conservative economy with words. Such stability could only be maintained in a timeless, spaceless vacuum,³³ in an ideal medium, since it could not exist in the real time and space of culture without feeling time's effect.

Oliver Lodge notes that geometry is more pliable in its abstraction and less specific than other phenomenal models because "it can be extended into regions of which we have and can have no direct conception because we are deficient in sense organs for accumulating any kind of experience in connexion with such ideas" (151). The nature of literary form is more specific, more subjective, and more open to interpretation in its

hermeneutic heuristics, than the mechanics of Euclidean geometry. J. Edward Chamberlin offers a comparison between such mathematics and the conception of the irrational, perfect number, stating that the “the fin de siècle preoccupation with irrational behavior...is what mathematicians might call an elegant coincidence that the term ‘irrational’³⁴ was used--in German, French, and Russian, incidentally, as well as in English--to refer to these numbers which so completely defied the logic of mathematical realism,” and which are called “transcendentals,” beyond the merely algebraic (Chamberlin, “Mathematics” 236). One such example is the configurative equation for a circle (πr^2), the perfect figure that I discussed at length in the Conrad section.

In the trope of the atomic subject, even the forces of positive and negative charges work in the service of categorizing motive force for the subject/poet, forcing a perspectivism of subjects and objects upon things in a *process*, a label Pound also gives to this force of creativity in the poet’s mind. In the *Osiris* essay, Pound designates positive or negative forces of poetic power within his vortex cone. In these agonistic spaces, the atom deviates from one path to another, where the greatest vortical organizations can take place, and it is a space in which the model of atomic deviation “designates an ‘event’ much more than an essence, and becomes problematic, rather than merely theorematic. Pound as “atom on creation’s throne” is an active self-organizer of such activity, by organizing his art according to his “prime pigment,” his own talent in writing.

The energy of the centralized artist must be “still,” yet must also resonate and radiate *actively* outwardly, the model that Pound claimed when he first compared himself to an atom in “Plotinus,” long before his exposure to Fenollosa. The artist must be the willing actor/generator of action in the world, which shows how the Occidental and the Oriental tend to contradict each other in Pound’s poetry, particularly in the Cantos. The

“energy” of this vortex, corresponding to the actions of physics, can extend as a comparative metaphor of the electrical motion of culture, society, and politics, in the vortex of London culture. In terms of the *Osirus* essay and its emphasis upon the exchanges of poetic energy between poet and audience, Pound was first influenced by Poincaré’s theories of energy conservation (I Bell, *Critic as Scientist* 137); therefore, I can demonstrate that indirectly, both Pound and Conrad use similar scientific techniques because of Poincaré’s early influence. Only later would Ernest Fenollosa’s scientific essays on space and time similarities between Japanese paintings and ideograms in 1912 influence the turning point of Pound’s conflation of Eastern and Western notions of the “unwobbling pivot,” as he translated it from Fenollosa’s notes.

Atoms consist mostly of space rather than substance, so to speak of it as a cone is misleading; atoms, vortices, cones, and turbines, in fact, are all very different things. The last three are all identifiable as metaphors for the vortex as culture in the poems they are found in throughout Pound’s long career; the atom was always a metaphor for the artist and the involution of his consciousness. In atoms, electrons give form to the atom by preponderance of their speed, and the number of electrons determines the atom’s chemical “behavior” in actual time; therefore, the simultaneity presented by Pound’s atomic matrix is misleading, as well. According to *Osirus*’ description, as compared to two true graphs of the full activity of a magnetically charged atom, Pounds “valence” of poetic “atomic” form, as center of a “vortex,” would demonstrate the spinning motions of its electrons in response to colliding protons.

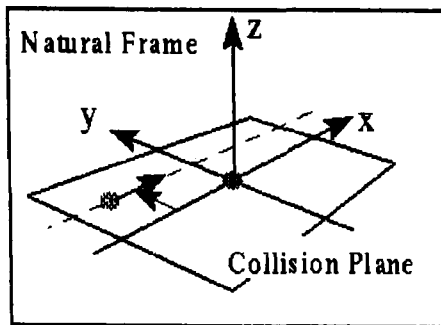


Figure 3.3. The X/Y Collision Plane of an Atom
("Atomic Collisions")

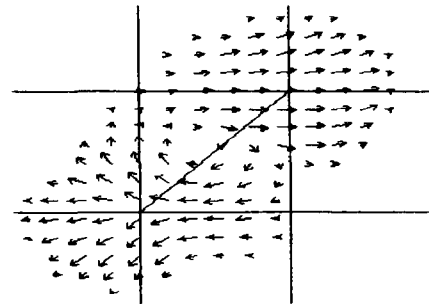


Figure 3.4. The Density Current of
the Collision Plane of a Real Atom
("Atomic Collisions")

Pound's cone resembles in its construction the centripetally centered atom of nineteenth-century theosophist/scientist Dr. Edwin Babbitt. Babbitt's atom, which first appeared in "The Principles of Light and Color," was persuasive, resembling in some ways Thomson's own conceptions of atomic vortices (see Figure 3.2). In the illustrations of Figures 3.3 and 3.4, the computer graph of how an atom really works, with its "currents" of positive and negative charges, is uncannily similar in its display of "vital currents" to Babbitt's, and subsequently, seems remarkably similar to Pound's "equations" of positive and negative forces in the *Osirus* essay. Equally important to this illustration, however, is its connection to light and the spectrum, an aspect which spiritualists used to justify the "healing" components of light as vital energy, which perhaps explains Pound's fascination with the atom to begin with.

Pound's atomic cone as the word has some merit as a simile, but when he tries to superimpose the poet as creator of the word and source of energy upon this cone, the vortex becomes unanalyzable, because the atom itself was still viewed at that time as irreducible and unanalyzable by nature, which links into Pound's attraction to mystical forces in nature, as well as to structures that would indicate the most precise and

irreducible units of composition. These illustrations provide a comparison between the theories of nineteenth-century theosophy and science, and the physical models of atoms in late-twentieth-century science. They demonstrate similarities in their motions, showing why such models became grist for the milling of figures of speech in literature.

The motive energetics of such a consciousness of association is articulated in the “Osirus” article in Chapter VI, “On Virtue,” whereby Pound explains how the morality and character of the artist is responsible for carrying off this task: “The soul of each man is compounded of all the elements in the cosmos, but in each soul there is some one element which predominates, which is in some peculiar and intense way the quality or *virtù* of the individual...” (224). Imposing an ethics injects a variable element into his objective material system. The irrational nature of the spiritual, according to Frye’s critical argument, is comparable to Modernist mathematics, sharing “what he calls a ‘centripetal character,’ directed inwards towards the structure of the discourse rather than outwards towards some ostensible referent in the real world”³⁵ (*Anatomy of Criticism* qtd. in Chamberlin “Mathematics” 234).

Derrida notes that the history of metaphysics is responsible for this mix-up, emphasizing logical structure at the base of an ethic of forms of signs and their origins (3).³⁶ As Chamberlin shows, mathematics possesses within its matrices a sort of focus on its symbols for its own sake, which is “irrational” (“Mathematics” 234). Perhaps Pound wanted to articulate the unattainable, irrational intuitive elements of structure which would imply a poetic consciousness behind it; possibly, Pound intuited the fundamental nature of electromagnetic energy as irrational according to traditionally Newtonian physics.³⁷ He found it necessary to construct a model for the vortex that would resonate that cone of

ancient proportional energies of spirit, intellect, and body in such a way as to reflect his position as poet in a universal divine plan.

Atoms had long been seen as objects of mystical potential, and up until Niels Bohr's discoveries, as objects that were irreducible. However, what the atom as object *is* and what it *does* are two different things. In Pound's definition of *virtù*, the poet's consciousness and sense of identity results in the poetic work produced, conflating the works of the poet with his own identity. It logically follows that if the poet's identity is merged with his function, he could extrapolate that idea to his works, where the form of the poem is merged with its function. This element of artistic *virtù* is what Pound would later articulate as the "prime pigment," the particular capability of the artist within his own "sphere" of influence, that is, of his particular special gift of imagination, whether that be in painting, in sculpture, or in literature. "Prime pigment," as metaphor, directly links Pound's atomic radiation of the "light" of knowledge to spectral origins, linking the atomic energies of the poet to the "luminous detail" of the poem's words, not simply grammatical, but "a metonymic substitution and a grammatical dislocation, so that one cannot think of his deployment of this detail as simply a re-grammatization" (Riddel 196). According to Joseph Riddel, it is the undecidability of what an image means "(as a medium of transference or a substitution) that confirms its irreducible linguistic, graphic, and rhetorical nature" (Riddel 196), and that the vortex appears to be a mapping of his poetic life as an "epistemological moment [as]...a linguistic moment" (Riddel 197). By 1918's *Memoir of Gaudier-Brzeska*, Pound indicated that the literary artist *must* take a "sculptural" or geometrical view of the images he wishes to portray in order to pull off the kind of sleight-of-hand of what he came to refer to as the Absolute Metaphor that he had

in mind (*GB*), the resonance of which packs the punch of many levels or “dimensions” of meaning behind a deceptive surface.

This analysis as “sculptural” is a generalization, excluding any explanation of molecular structure and chemical potential energy, in literature the equivalent of word-cluster potential, which Pound called “radiant nodes,” referred to in “Plotinus” as “the node of things” (*A Lume Spento* 36). Without the classical reductionist program of atomic theory, as Einstein, Podolsky and Rosen found, a paradox lay: “at the level of atomic objects, nature is holistic. One cannot separate an atomic system into subsystems in such a way that the properties of the entire system can be obtained simply by adding together the properties of the subsystems: *‘the whole is more than the sum of its parts’*,” as Hans Primas points out (qtd. in Weininger 45). In terms of Pound’s Imagistic prescriptions,³⁸ the economy of such “radiant” nodes refers to an efficiency which excludes excessive ornamentation and verbiage, while maintaining a sense of compact structure that emits potential and real energies to *transform* audience understanding through the *body* of the poem, processed by the *body* of the poet. “Plotinus” shows where the energies of these bodies radiate out to the vortex of culture, transmitting metanarrative messages of the poet’s transformative powers as part of that body. This “energy” is reified as a process in both “Plotinus” and *Osirus*.

The “radiation” of such bodies carries the valence of atomic and electromagnetic vitality. Pound’s *Osirus* explains this “energy” in terms of its geometry: “Let us imagine them charged with a force like electricity, or rather, radiating a force from their apexes--some radiating, some sucking in. ...Some of these kinds of force neutralise each other, some augment; but the only way any two cones can be got to act without waste is for them to be so placed that their apexes and a line of surface meet exactly” (34). The

valence of these words is indicated by their positive or negative powers of persuasion. As Weininger notes, valence concerns “the classical postulate about the combining power of atoms,” which “played a decisive role in the formation and validation of the molecular structure hypothesis” (43). Werner Heisenberg points out that valence was a problem of linguistic use in scientific categorization³⁹ (Weininger 43-44). This metaphor is meant to indicate the “chemistry” involved in the transmission of information possible between an author and an audience; a poem with a high potential energy would be one which would pack as much power as possible in as small a poetic package possible to influence an audience.

The metaphor of atomic structure can be powerful when it is applied to the word-as-unit, however, is its implications for molecular combination of meaning: in other words, while words have their outward, obvious meanings, they may also contain hidden potentials, depending upon their combinations in contextual syntax. In order for scientific theorists to come to grips with this problem, they had to reduce “chemical concepts (valence, for example) to physical terms (exchange force, antisymmetrization, and so forth” (Primas, qtd. in Weininger 45). According to *Osirus*, “When this conjunction occurs let us say their force is not added one’s to the other’s but multiplied the one’s by the other’s’ thus three or four words in exact juxtaposition are capable of radiating this energy at a very high potentiality” (34). Energy of an element depends upon its number of electrons, protons, and neutrons, making up its weight,⁴⁰ which decides what combinations the electrons can make through compounding. Martin Kayman, Daniel Tiffany, and Ian Bell have identified this use of energy as analogy,⁴¹ linking it with the background of James Clerk Maxwell’s notion of an invisible material medium (the mysterious “ether” as a transmitting medium of electromagnetic waves), subsequently

displaced by the discovery of X-rays by Röntgen (1895) and radium by Madame Curie in 1898 (Kayman 84-5), and furthermore, Robert Casillo identified Pound's fascination with radio as an aspect of gaining power over his audience, since mere "centrifugal" forces of dispersal of a message have no real ability to infuse the audience: "It is clear then why Pound...broadcast from Rome [in the 1940's]. He pursues that audience which he requires in order to prove his status as Divine Man and performing god" (Casillo 294). This need for power in Pound was not lost on Gaudier-Brzeska, whose monolithic sculpture of Pound's head is a monument, as Casillo notes, to Pound's "monolithic" stature, as "performing god," as Allen Upward's "Divine Man," the wizard and cultural hero sacrificed to modern culture (289).

For Pound, the consciousness of the artist is the "atomic" creator of poetic energies in the space of the vortex of London culture, which he acknowledges in his *Memoir of Gaudier-Brzeska*, connecting the consciousness of the artist with the consciousness of the milieu of London's "race." The *Osirus* simile bears out a panoptic⁴² fourth-dimensional view of a "race consciousness" as space *beyond* the axes of three-dimensional thinking, as well as a space capable of *beyonding* in itself, transcending the axes of three-dimensional vertical, horizontal, and lateral directions, which correspond to height, length, and width in physical terms. The fourth-dimensionality of the atom occurs through its volume, since, as Mendeleev discovered, atomic weight determines the energetic function of elements, as well as the measure of its complexity and radioactive potential (Bronowski, *Ascent* 329-30). Radioactivity thereby becomes a metaphor for the poet's generative potential, a fourth-dimension of invisible energy.

The energy generated by the poet presents the "luminous detail" within the poetry, where "certain facts give one a sudden insight into circumjacent conditions, into their

causes, their effects, into sequence, and law” (*Selected Prose* 22, qtd. in Knapp 56). The “luminous detail” of such factual things would necessarily pack an immediate sensual punch, especially in its visionary presentation, since their imagery as facts “serve to interpret ‘the development of civilization or of literature,’ and they transmit knowledge like ‘the switchboard governs an electric current’” (qtd. in Knapp 57). Ian Bell identifies Pound’s transcendentalism as grounded within Pound’s devotion to “a view of the world as a series of forces...[which] made possible the use of science to claim ‘reality’ for the mystical temperament by Mead [for example, Mead’s Platonic idealization of “the physical body of man...as...the exteriorization of the invisible subtle embodiment of the life of the mind”] (*Critic as Scientist* 142). The correlations between the structure of atoms, their composition, and their energetic qualities, and the body of the poet and his works, must be made in order to understand the extrapolations between form, content, and the artist’s perspective made in such poems as “In a Station of the Metro” of 1913, arguably Pound’s most famous poem.

“In a Station on the Metro” is one of the few poems for which Pound gives a well-documented account of his method of composition. This poem is significant because, as Ian Bell reminds, this poem “prompts Pound into his choice of Cartesian geometry as a means of explaining the fresh creativity of Vorticist art” (“Modernist Spirals” 23); the “Vorticism” of 1914 neglects to mention the effects of syntax that he had previously emphasized:

The apparition of these faces in the crowd
 Petals on a wet, black bough. (12)

Timing in syntax as form, as Pound originally conceived it, needed some additional explanation in order to relate its laterality or verticality of dimensional time and space;

instead he focuses on explaining the term “apparition” as a feature of artistic imagery, which may have contributed to its subsequent misprinting where such spacing is omitted (I Bell, “Modernist Spirals” 59, fn 70). As Pound mentions in *Osiris*, “the juxtaposition of [words’] vertices must be exact and the angles or ‘signs’ of discharge must augment and not neutralise each other” (34). By neglecting to explain his syntax for “Metro,” however, Pound fails to explain the geometry of the poem’s form (and the forms of every other poem that is supposedly Vorticist), excluding time’s structural effect and its subsequent historicity. As Levenson notes, Pound was influenced in part in economizing form in Impressionism’s emphasis on *le mot juste*, a focus on precision, and Impressionist criticism of artifice and “moralizing,” and the autonomy of form (124-25). Pound *does* explain the syntax as derivative from haiku, explaining only its conciseness as a feature of poetic economy of Imagist technique (Harmon 50-1), without explaining its sense of time and space as geometrical. As Picasso would demonstrate with his use of space and the fourth-dimension, the focus needed to shift from the perspective of the panoptic author to a distribution of energies within the *field* [dimension] being perceived.

As Bell demonstrates with “Metro,” the real has upon it a superimposed image of an Other, “one idea on top of another” (Pound *A Memoir of Gaudier-Brzeska* 89); however, the two syntactical images of the apparition and the facial “petals,” two images in one, does not reinforce the meaning of the syntactic spaces that Pound insists upon--the audience could interpret it as nothing (I Bell, “Modernist Spirals” 36).⁴³ However, only Pound’s vortograph picture, a collaborative effort with Alvin Langdon Coburn which was purely visual, was able to portray this geometry, yet only in visual terms, not in ideological terms (I Bell, “Modernist Spirals 61, fn. 102)⁴⁴. I will go into greater depth in explaining the fourth-dimensional aspects of Pound’s poetry when I explain his use of the crystal as

atomic trope in sub-chapter three of this chapter on Pound. The focus on the individual poet as subject, however, continued to be the focus of Pound's poetry.

The exponential geometry of Pound's vortex corresponds to his sense of the potential kinetic energy of artistry as it expands into the paradigms extant in the milieu of culture; this geometry is analytic, in Pound's description, a neo-Platonic analysis of the universal as expressed through the perfection of circular motion of the vortex, perfect because it defies space and time and perpetuates its own form (*A Memoir of Gaudier-Brzeska* 92). The vortex is an attempt to plot a trajectory upon which Pound's words can find a place within culture, where time, as one aspect of the fourth dimension, is the resonant force which determines the placement of its points within the algebraic axes of x and y, where history (tradition), as the effect of time, plots its points of reference within an ideal universal timelessness, the Plotinian elementation of a utopia.⁴⁵ These "habitual matrices" of things and ideas is part of the repetition within the associative correspondences for which Pound appears to aim in his Paterian/Emersonian interpretation of Yeats' "correspondence."

According to Ronald Bush, Pound's translations of Fenollosa's "*Rihaku*" notebooks on the Chinese Li Po had much to do with his turn of mind around 1914, according to a letter Pound wrote to his parents; like Pater's take on Swedenborg, Fenollosa "started as a devotee of Emerson" (37), an indication that Fenollosa's interpretation of Li Po's texts was very possibly influenced by Emerson's transcendental theories of correspondence.⁴⁶ As Ian Bell notes, "the act of metaphor follows this pattern of self-reflecting repetitions [as modeled by Emerson's equations of mimesis with "natural" correspondences⁴⁷] by proclaiming simultaneously that all natural facts are symbols of spiritual facts and that all spiritual facts are represented by natural symbols" (I Bell, *Critic*

as *Scientist* 130). Bell identifies Emerson's notion of natural self-similarity as the axiom responsible for "an epistemology of correspondence [which] demands above all an idea of centre," the argument of which "advertises itself as an argument for balance, for a system of potentially damaging or painful oppositions which the proposed centre holds in equilibrium, ...as a means of maintaining order" (I Bell, *Critic as Scientist* 131). The centrality of the artist at the apex of his vortex "cone" is therefore mathematized within a matrix of a vortex, but in a way in which the artist becomes a chemist in his laboratory, mixing artistic potions meant to transform their audiences.

In the first Vorticist Manifesto of 1914, Lewis states firmly that "WE BELIEVE IN THE EXISTENCE OF THIS USEFUL LITTLE CHEMIST IN OUR MIDST!" (*Blast!* 1: 12), and "It is Chaos invading Concept and bursting it like nitrogen" (I: 38), indicating that his own view only partially coincides with Pound's. Two ideas coincide here: the linkage between the chemistry (or alchemy, in this case) to an elemental atomic form (nitrogen), linked furthermore to the breakdown of metaphysical solidarity.⁴⁸ Atomism was typical of the Vorticists' notions of formal structure, for it regards not only the development of artistic heuristics, but also conceptions of the time as a kind of "chemistry of the Present...different from the Past," with which artists can "produce a New Living Abstraction" (Lewis, "Manifesto" *Blast!*1), testament to their particular *Zeitgeist* and *Weltanschauung*. The "useful chemist" for *Blast!* was Kandinsky.

The reprinting of Wassily Kandinsky's manifesto in the 1914 issue of *Blast!* keys in Pound's use of the atom as trope in "Plotinus," *Osirus*, and the *Blast!* vortex manifesto as a sign of the artist's role in culture and its "involution." As early as 1898-1905, Expressionists like Vincent Van Gogh, Franz Marc and Wassily Kandinsky were moving away from purely objective, visible art forms, seeking to develop an art that resonated

their personal visions, indicating “an art which manifests in visible form the inner life of mankind” (Paret 31).⁴⁹ Pound’s *Bildungsroman*⁵⁰ is evident within his tropes of the atom and the crystal, for they represent his struggle within this particular milieu, as evidenced by poems like “Plotinus” where he describes himself within terms of the creative atom. Lewis reprinted Kandinsky’s “Inner Necessities” in 1914’s *Blast!* in order to explain this approach to mystification of the formal structures in art works, and this essay is generally accepted as one of Expressionism’s manifestos for art (*Blast!* 124).⁵¹

Kandinsky’s view of art and the aesthetic aim is consistent with Pound’s in a number of ways, and explains why Pound began with the concept of the atom as self-identity of the artist and the autonomy of art. The atom is an apt metaphor that explains the structural composition of all things, and can be extrapolated to the concept of words-as-units; in combination, these atomic words are the essential building blocks for the syntax of the literary artifact. Kandinsky demonstrates that the “binding” and “tearing apart” of forms works at the level of compositional “Timbre.” Pound’s Imagism denotes that every word should have multiple meanings packed into a concise context for maximum effect, as he demonstrates in 1912’s “Metro” and 1915’s “Dogmatic Statement Concerning the Game of Chess: Theme for a Series of Pictures.” Kandinsky’s view is also consistent with Pound’s views in terms of the generation of artistic energies.

Kandinsky also confirmed that art must have autonomous forms (Levenson 125). The atom is such an autonomous form, self-reflexive form, independent in its organic power. The atom is an apt metaphor for a generator of energies, its polarities working in a dialectic that is transformative, metamorphic, through its particular “chemistry” of molecular formations, all within a defining cause and effect structure of bifurcating actions and reactions, particularly within the conception of Expressionist creeds for action.

Pound's search for the efficiency and efficacy of an organic poetics thus begins within the organic matrix of the poet himself, where atoms could grow in a molecular matrix to form cells and their structures, presumably with the idea of creating the poetic "body" of work. Electro-chemical vitalism⁵² is portrayed in the trope of the atom, the living "chemistry of the present" of Pound's vortical atomic theory. As Thomas Jackson states, "our best hope is not conceptual discourse..., but the *image*," since such an image "keeps us in the concrete" (111). Hugh Kenner notes in *The Pound Era* that these images are "patterned energies," and Dasenbrock notes in his analysis of Kenner that the vortex symbol is a diagram of its name," and that this energy "can be represented only through Vorticism's schematic mode of representation" (73). Dasenbrock's claim needs to be supplemented to include that the form represents the content intended, as well as the mode, the art, and the art community in which it exists and circulates.

Joseph Riddel notes a letter Pound wrote to Harriett Monroe "concerning the irreducible element of style" where "language is made out of concrete things"⁵³ (*Selected Letters* 49, qtd. in Riddel): the atom builds and transforms such things, although it is invisible. The nature of the poet's consciousness as "germinal" and "organic" is first outlined in 1912's "Psychology and the Troubadours" of *The Spirit of Romance*, and is mildly alluded to in 1908's "The Tree" as he mentions the transformation of Daphne, a mythological allusion to individual metamorphosis and the artist's own "germinal" potential as Pound compares himself to the oaks of the forest, grown from a single "seed."⁵⁴ In the Modern era, many artists were in a quandary over this age-old dilemma of form and expression, well-rooted in the differences between "being" and "becoming." Pound's insistence upon finding a language that would adequately resonate the actual

world, the *forma*, is an attempt to find a lexicon for the becoming that leads to an order of forms.

The appeal of atomism for Expressionists like Kandinsky, one of Vorticism's most important artists and a great influence on Pound, concerned its centrality of origins.⁵⁵ The Expressionists in particular stressed the idea of crisis and conflict of war as themes, but their art also reveals a yearning for a return to simplicity and a utopian idyllic peacefulness, a return to primitivism. A return to origins was evident in enigmatic primitive woodcuts and sculpture: the cross-purposes of the abstractions of the Expressionist distortion of image with their fascination with primitive art reveals some contrary practices by artists of the Modernist era.⁵⁶ As the Impressionists⁵⁷ had shown the Expressionists, Atomism is one way of accomplishing this task. The Expressionists despised the passivity of Impressionist politics, seeking the destruction of the old traditions in art and looking into the possibilities offered by other cultural movements, such as Oriental philosophy and Egyptian mythology, as Pound did with the Confucian Tao in his *Cantos* and his use of Egyptian tropes in *I Gather the Limbs of Osirus* and poems like 1912's "The Tomb at Akri Çaar."⁵⁸ Pound takes his Tao of dimensional consciousness from Confucian odes and from the symbols of mathematics, mechanics, and chemistry, demonstrating a tendency toward the structurization of spiritual motive energy of the artist as a driving natural force for change. The idea of artificiality as being opposed to the "organic" production of literature is an idea that emerges as an anarchistic ideal of the Modernists, showing that they were aware of their own status as "irregular" in comparison to traditional literary methods and ideals.⁵⁹ For example, the Futurist creeds for speed, idolatry of mechanics, movement, and their rejection of the past are contradictory; Pound saw the Futurist "cone" as one of centrifugal forces spun out of control, rejecting everything of history. As

opposed to Futurism's demands, the appeal of atomism for Expressionists was in its centrality of origins and its creative potential. The Expressionists stressed the idea of crisis and conflict of war as themes, but their art also reveals a yearning for a return to simplicity and a utopian idyllic peacefulness, a return to primitivism through the "magic" creations of the "Divine Man," according to Allen Upward's theories (Casillo 289). While they sought the destruction of European literary traditional values, they looked into the possibilities offered by other cultural movements

A Victorian ethos pervades this sensibility regarding the motive power of art and science: as Crosbie Smith offers, such an ideal is a reaction to William Thomson's theories of dissipation, founded firmly in Psalms 102: (Smith 25-27⁶⁰), that "everything in the material world is progressive," meaning that the flow of natural energies degenerates, dissipates, so that "failure properly to harness those gifts of energy was therefore only a waste, and in that sense a sin of 'dissipation', with respect to human beings rather than nature" (Smith 101). This Calvinist doctrine is specifically occidental, rather than quietistic in nature; Pound's doctrines advocate *action*, not the quietistic attitude of Taoism that proposes that all things will work themselves out in the cosmos. Therefore, Pound's methods are not entirely focused upon the philosophies of Confucius' "unwobbling pivot." Thomas Jackson indicates that Pound *did* refer upon occasion to Ecclesiastic⁶¹ interpretation of experience (102), as well as to Platonic mysticism and other Gnostic and mystical interpretations of reality. These doctrines contradict each other in some ways and support each other in other ways. The driving of Pound's vortex is one such engine that attempts to direct and *transform* such energy in a manner that combines Thomson's cosmic directional economy with Paterian observation and Bergsonian intuition of vital energy and the Real within the framework of Plotinus' neo-Platonic roots, which posits a fluid heuristic universe within the Heraclitean

response to Parmenides' fifth-century B.C. theory of unchanging being. Agency of the artist as subject/vortex must be examined in order to reveal how the form of the vortex breaks down through the "splitting" of the atom, the atomic subject,⁶² the poet.

Cubism and Expressionism in particular had this formal analytical capacity for creating a heuristic for literary art, just as Pound reveals in his own "analytical geometrization" of art objects. The "energy" of this vortex, corresponding to the actions of physics, could be produced by the electrical motion of culture, society, and politics, in the vortex of London culture. The energy of the centralized artist must be "still," yet also resonate its valence *actively* outwardly, in the model that Pound claimed when he first compared himself to an atom in "Plotinus," long before his exposure to Fenollosa. The artist's consciousness must be the willing generator of action in the world, which demonstrates how the Occidental and the Oriental tend to contradict each other in Pound's model. As Gaudier-Brzeska explains in *Blast!* of 1914, this process is the "crystallization" of desires, a concentration of "abstract thoughts of conscious superiority" (158). These movements occur within the tropes of the atom and the crystal, as they move from the static form of the crystal and the atomic soul to their movements within the vortex itself, where crystalline forms finally circulate and force a "sublimation" to the "invisible" presence of electromagnetic energy.

Since atomism had built-in metaphysical aspects, many poets and writers found connections between atoms to crystals, since crystals grow from atomic matrices.⁶³ Scientists themselves were responsible for the maintenance of these metaphysical comparison; for example, in scientific terms, "isomorphism" is defined as "similarity or identity of crystalline form, usually indicating similar or analogous chemical composition" ("Isomorphism"). Hence, the crystal, as a metaphor, became expressed within that

Leibnizian conception of “plastic soul” (as Gaudier-Brzeska refers to it in 1914’s *Blast!*) as something of isomorphic structure, superior to lower forms of expression from earlier art history: Gaudier-Brzeska maintains that the vortex evolved from “solid excrements” in the fourteenth and fifteenth-centuries (realistic representation), “LIQUID until the seventeenth century,” and “gases” (gaseous) as expression until the age of Expressionism and what he considered the “fall” of Impressionism (156). Gaudier-Brzeska notes that the Vorticist form is the mature vortex of the “crystallization” of the “spherical” into the cube [Cubism] as a concentration of all artistic expression, and therefore, this isomorphic “crystal” is a symbol of the unity of the artistic community as a “vortex.”

These isomorphs, crystals of similarities in metaphor, are similar, not alike, in form, and the artist himself must find that expression within his own consciousness, thus its homogeneous nature, rather than the heterogeneity that Lewis proposed. Pound was concerned with finding images that would express what he considered to be the perfect form of poetry. As Bell indicates, alienation of the artist was necessary for achieving objectivity with economy.⁶⁴ According to the Imagist guidelines Pound set up, metaphors act to condense the content of meaning into a single economic form, while at the same time displacing them in terms of complete objectivity. Like Freud’s dreamwork, which relies on the same metaphors of condensation and sublimation to explain the psychic life of the dreamer, Pound creates a semiology using the diction of nineteenth-century atomism. Condensation of the work, in the tropes of the atom and the vortex, work to formalize Pound’s “dream,” but what the poems reveal is the sublimation of desire that has been displaced into its form as an identity. Crystalline structure, built from an atomic/molecular matrix of vital energies in perfectly balanced polarities, offers a heuristic for this ideal vortex, the ideal artist, and the ideal art work, as an optical matrix of vortical energies.⁶⁵

Pound's Atomic Crystals: The Chemistry of the Present

Pound bases his vortical structuralism within terms of the resonant powers in the crystalline structure and energies. In "Plotinus," the poet's atomic "invisible" power is evident, but the form must be consistent with something capable of both solidity and elasticity, and eventually, must itself seem invisible. Crystals have such an efficient atomic form and lie within correspondence with such a median region. Yeats was the source of these influences for Pound. In 1908, Pound was still looking for an image of an object or entity that could express his ideal poetics, where the poem itself would reflect the microcosm/macrocosm monad of Allen Upward's conception, an ideal of endlessly repeating "whirl-swirls," and Upward's crystal offered the promise of a fourth-dimensional structure, the kind of metonymic synecdoche (a part-to-whole personification) that would effectively reify his vision of cosmic economy. From 1910-1913, Pound was influenced by W.B. Yeats's theory of Concord/Discord when Pound and Dorothy, his wife, honeymooned at Yeats's Stone Cottage, a winter retreat. Gradually, Pound was introduced to Yeats's psychological research in theosophy and the "crystalline" state of gnosis, influenced by Yeats's theosophical research, where Pound took an interest in sixteenth-century Neo-Platonic philosopher John Heydon's "alchemy" of "half-transparent" forms which Pound mentions in the final version of the original *Three Cantos III* (Surette, Ballantine "Ezra Pound").⁶⁶ Pound, however, was already in the practice of using scientisms in his poems and prose, so Yeats' influence, while considerable, seems supplemental rather than instrumental, confirming rather than affirming Pound's use of scientisms. The source of this force or energy, radiant or otherwise, is therefore merely metaphorical and formal. Yeats' "crystalline" state of gnosis is a "hardening of the

categories,” as Abrams and Haraway call it, a condensation of forms that is intended as a formal model for the ideal state of mind for the artist, a belief that Pound seemed to hold superstitiously.⁶⁷

Pound specifically defines content within the language of theosophy in 1910’s *Osirus* and “The Wisdom of Poetry” when he states that “if one have a mind which inclines to magic rather than to science, one will prefer to speak of these equations [of “poetry [as]...a sort of inspired mathematics”] as spells or incantations,” since “it sounds more arcane, mysterious, recondite” (qtd. in I Bell, *Critic as Scientist* 139), where the mysterious occult influence of force is internalized within the artist’s abilities. Therefore, the scientism of the geometrical form inspires the reader to have a greater faith in its structural regularity if he or she sees the familiar form expressed within the logic of mathematics. In geometry, Pound discovered he could explain the form and then its potential within aesthetic terms.

Pound resoundingly criticized the matrices of Cubism for its “analytical” geometrical forms, bereft, in his view, of the influence of the soul of the artist.⁶⁸ Pound presents the atom in “Plotinus” and the forces of its vortex in *Osirus* as the basis of a “crystalline” form which has definite concrete qualities; scientists at that time were aware of the relative states of crystalline integrity. Modernist ideas of the irreducibility of the atom, when compared to Pound’s Imagist creeds for frugality of diction, has definite form of body according conceptions of “atomic” form, yet is unstable enough in its energies to enable it to change, be “fluid.” This trope of the atom enables Pound to make a connection between the forces of material/physical mechanics (things) and the “mechanics” of poetry, linking the concepts of crystalline form and organic processes of transformation and progressive growth of those forms. In 1914’s *Blast! I’s* “Vortex.

Pound.”, Pound identifies that “every emotion presents itself to the vivid consciousness in some primary form,” in the primary pigment of the image, where the vortex “is the point of maximum energy,” representing “in mechanics, the greatest efficiency” (153). Pound outlined this efficiency within the Imagist doctrines in the March 1913 issue of *Poetry*: “Use no superfluous word, no adjective, which does not reveal something” (199). Crystals offer a form implying a relationship between geometry, physics, and chemical properties, and when one considers the structure of crystals like proteins (semi-solids like DNA), biology and evolution, as well. Their forms for artists offer the solidity of objects, yet contain the potential vitality for any kind of organic growth known to man; the crystal has an organic “atomic” potential for growth, the potential for perfect symmetry for composition, and the potential as a metaphor for a perfect medium of transmission.

Osirus was the first of Pound’s works that offered a glimpse into the “vertical” composition of the vortex and the atom as it was originally formatted in “Plotinus.” By the time he wrote *Blast!* of 1914, he still had not used the crystal as a metaphor in conjunction with the vortex and the atom. However, by 1915’s “The Jewel Stairs’ Grievance” from *Cathay*, Pound used the characteristics associated with crystallinity, of what Pound referred to in the April 1918 issue of *To-Day* as a poem that was not merely suggestive, but economic “by a sort of mathematical process of reduction” of only the most concentrated, juxtaposed images (55-6).

The jewelled steps are already quite white with dew, ...

And I let down the crystal curtain... (*Rihaku (Li T'ai Po)*)

Note: Jewel stairs, therefore a palace. (*Selected Poetry* 55)

Crystals refer to the economic form of this poem. "The Jewel Stairs' Grievance" uses crystals in two different ways: to illustrate the setting as a palace belonging to a royal family, and where the "crystal curtain" that is let down by the poet reflects and refracts the light of the moon, much in the manner of the poetic process that Pound is describing. The words themselves are "jewels" that are grieved, complaining, of the dew, the passing of time and the moon's cycle. The crystal forms of words, cut by the pure motive of the artistic mind, take on the "enlightening" qualities necessarily gained from pure "reflection" of the artistic mind. Pound's references to "the god inside the stone" are merely reflections of the involuted processing of the artistic mind, which is like a funhouse hall of mirrors in its dimensional multiplicity of images that merely reflect and refract the dimensions of the artistic mind. As Mike Howard points out, isometric (isomorphic) crystalline form has a central symmetry with three crystallographic axes of a four-fold rotation, with four diagonal axes of three-fold rotary inversion that pass through the crystalline form at the joint of the crystalline faces, revealing nine mirror planes, the highest possible symmetry of crystalline form ("The Cubic (Isometric) System"); as Pound describes the vortex, the vertices meet at "exact" angles (consistent with crystallographic perspective, as Howard reveals with the illustrations in Figures 3.5-3.7). As Figures 3.5-3.7 illustrate, the crystalline axes could correspond to Pound's conception of the vortex cone, with the still point at the top its "atomic" apex of radiation. Such a crystal may or may not be completely solid, depending upon its "chemical" composition, but its perfect form is an abstraction. The "crystals" of Pound's form act like prisms, where the "light" or "radiation" refracts through the crystal to form colors of the spectrum.

Figure 3.5. Model of Three ‘Regular’ Crystalline Axes (Howard ‘Introduction’)

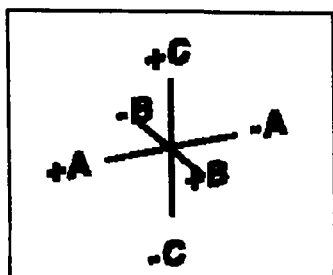


Figure 3.6. Four Crystalline Axes (Howard ‘Introduction’)

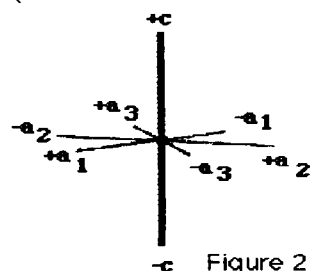


Figure 2

Figure 3.7. A Model of an Octahedron; An Eight-sided Crystal (Howard ‘Introduction’)

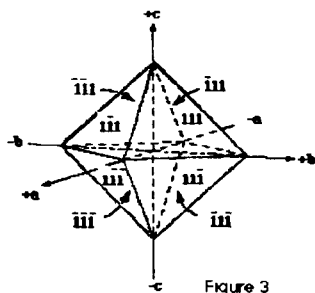


Figure 3

Figure 3.8. Pound’s Vortex Cone as he and Wyndham Lewis conceived it for *Blast!*



Ivars Peterson explains that the atoms, ions, and molecules in crystals form orderly arrays with repeating symmetrical patterns of columns and rows; furthermore, when crystals fracture as they most often do, the cracking follows the directional grids of these rows (Peterson). The reflection or diffraction of light occurs according to these patterns, in the past/present/future for the artist of literature in the form of poetic allusion. Meanwhile, the “perfect” abstraction of the crystallization of understanding that Pound wants to occur through the refraction of meaning in interpretation, while the “imperfect” diffraction of interpretation “fractures” that crystallization at the audience level.

Richard Bube explains that conductivity of a semi-conductor (a medium through which energy passes) increases under illumination, and thus attains a *photoconductivity* through “direct” or “indirect” transitions of conduction; wavelengths of light allow for a

high rate of “excitation” of “free-electron plasma oscillations” (Bube 444). Pound’s metaphor, as “crystalline” form, acts as an imaging machine, through which “enlightenment” generates the power to move audiences. This imaging machine, in the form of the crystal, mediates Yeats’ gyre of literary history through a continuous present.

In 1914’s *Blast!*, Pound addresses his vortex as a “turbine,” an image that held problems when taken in conjunction with his previous images of the atom and the vortex:

THE TURBINE. All experience rushes into this vortex. All the energized past, all the past that is living and worthy to live. ALL MOMENTUM, which is the past bearing upon us, RACE, RACE-MEMORY, instinct charging the PLACID, NON-ENERGIZED FUTURE. ...The primary pigment of poetry is the IMAGE. (“Vortex. Pound” *Blast!* 153-54).

The turbine as an image injects some sense of thermodynamic vitality into his atom and vortex images, as well as introducing the element of time to the mix, before he gets into the image of the crystal itself. As William Harmon maintains, while Pound was not systematic in his approach to time and space, “the unreality of historical time... preoccupied him for decades” (3), and his discourse on the vortex demonstrates his ambivalence towards the position of the artist in time.⁶⁹ Pound may have been “an atom on creation’s throne,” but he realized all too often that he was working against time, because all atoms, which make up all people, must eventually bow to time’s dictations.

Indeed, Pound’s preoccupation with the problem of time in his poems regards not only its rhythm, its meter, but its historicity, as well. Pound found that “a timeless idea exists only as manifest in a time-bound action; the temporal and spatial contingencies of an action are nearly as important as the unconditional idea that the action realizes” (Harmon 7). Accordingly, whether one is referring to the artist or the art work that an artist creates, one cannot divorce a work from the environment from which it emerges.

Surprisingly, such a doctrine is in agreement with Futurist doctrines where the present is emphasized. Pound's idealistic conceptions of poetic time contradict his own attempts at a "race-conscious" use of traditional forms; Witemeyer confirms that his first technique was allusion, especially his allusions to Dante's "persona" as a model of poetic and spiritual "monogamy" with God (12-13), consistent with Allen Upward's conception of the "Divine Man" as revealed by Casillo (289). Quoting John Fowles' *The Aristo*,⁷⁰ Leon Higdon demonstrates that this time-line is folded over onto itself dimensionally, where the vortex is illustrated as a "spinning top" (Higdon 114), very similar to the "folding" I discussed in Conrad's timeline. Higdon explains that the metaphor of the spinning top demonstrates "the essence of a perpetual now which remains in the same spot repeating itself over and over" (114), Pound's "cone" in *Osirus*, rather than the turbine of his description in the Vortex Manifesto.

Higdon also reveals that this time-line of the perpetual now is problematic for the author and the audience, since the problem with such narrative is how to place the order of events. Pound reveals a simultaneity of events, but his problem is the difficulty of beginning, middle, and ending, of getting away from that Aristotelian heuristic of sequence that too many readers depend upon.⁷¹ Pound's time attempts to capture this simultaneity of literary past, present, and future by moving backward and forward from one time line to another, from one culture to another: in his Cantos, he moves from Homer's *Odyssey*, to modern London, to the ancient Confucian odes, to Italian troubadour tradition, and so forth. The crystal, as image, captures and reflects these moments as a projector of Pound's "atomic" power.

Poems like 1913's "In a Station of the Metro," which more or less establish the economy of Pound's use of words and syntax into a very concise, frugal form, is a fight

against wasting time with verbose ornamental poetry. In “Metro,” Pound distorts time⁷² in order to “capture” the moment of his observation of the faces he saw. Pound goes against his own attempt to present the *Zeitgeist* (spirit of his time) to which all artists are subject, a historicist⁷³ notion that both he and Eliot found appealing, also since it corresponds to their senses of achronological metahistoricity. To suspend time in this manner stretches history out according to a vertical paradigm, where epochs of time are not placed sequentially, but rather, like Dante’s *Divine Comedy*, according to the significance of theme within characters. For Pound, this vertical stretching occurs as the subject rhyme.⁷⁴

In 1918, Pound criticized the Symbolists, stating that they reduced poetry to allegory and metonymy (*A Memoir of Gaudier-Brzeska* 84). Throughout Pound’s career, he continually praised and imitated Dante’s allegorical methods. However, like Yeats, who created his own personal symbology based on literary allusion, Pound appeared to do the same thing by alluding to Dante’s allegorical methods.⁷⁵ The illustrations of crystals earlier in this chapter was meant to indicate, such vertical, horizontal, and lateral “slicing” occurs in time and space through images of objects, where centricity is focused on the axis, the artist’s consciousness, of the vortex, as Pound first described in detail in *Osirus*.⁷⁶

The Nuclear Soul of the Vortex: The Artist as Imaging Machine

Osirus lays out a geometrical description of an image-making machine, where a natural poetic economy measures the checks and balances of negative and positive “valence,” the tendency for transformation by the excitation of electrons. The analogy to electromagnetic energy is a good one, provided one does not venture to inquire into the

possibility of spontaneous radioactive decay. Pound uses the analogy in *Osirus* only within its positive valences, and focusing only the geometric forms in his simile allows him to slide by with this sleight-of-hand. By September 1914, when Pound attempts to describe the power of his vortex, he refers to the vortex-imaging machine as a “turbine,” but this image is not complete. The turbine is really a simple machine, where a rotary motor consisting of vanes and buckets rotate on a spindle, around which a case with openings admits and expels some force. What he portrays in *Blast!* is a simple cone with a spindle. The turbine’s kinetic energy relies upon an even distribution of force pressing upon some kind of blade, thereby producing work (Wark 188).⁷⁷ Pound’s turbine emphasizes the force of the artistic consciousness as its the source of radiance, mechanical with an invisible source of energy.

The language of science is intended to give Pound’s description authoritative credence, but his use of it is faulty, since when the turbine is correctly portrayed, it reveals that it is incapable of self-generative energy. The rapid metamorphosis of word meaning would be the energy of nuclear fusion, if his imagery were complete. His turbine could be the artistic form itself, while the nuclear reactor itself, as artistic consciousness, generates the nuclear “radiant clusters.” Pound tries to superimpose the force at the turbine’s spindle, thereby inducing a *deus ex machina*, a mystical source of energy. The source of the energy of the atom itself was still in debate in 1914, so it is understandable why Pound could not exactly articulate what he was trying to describe when he mentions the turbine. What Pound wants to describe would be *like* an MRI (magnetic resonance image), a self-radiating source of the artistic consciousness that radiates meaning (radiant nodes of molecule-like word-clusters), and is generated into the turbine of culture through the vortical motions of the poem itself. The “vorticity” of such motion spins in upon itself,

and as I showed in the chapters on atomics and crystals, Pound's cone, while similar to atomic crystalline structure, is not a real physical vortex; a cone is not a vortex, and a turbine is not a vortex, by the defining characteristics of their forms or functions. The scientific history of the vortex is associated with the movement of atoms, however, so that if Pound had stayed away from the metaphor of the turbine, he would have been more consistent.⁷⁸ However, there are enough similarities between the three to warrant some comparison.

The topography Pound describes in his turbine would be perfectly circular, since Pound compares his sense of the materiality of his vortex as being equal to that of geometric *purpose* of a circle: "It is the circle free of space and time limits. It is the universal, existing in perfection, in freedom from space and time... The difference between art and analytic geometry is the difference of subject-matter only" (*A Memoir of Gaudier-Brzeska* 91). Such a statement ignores the complexity of art as it affects its culture, as opposed to Pound's idealized conception of the perfect art work in a perfectly receptive audience. The value of the spindle must always be one, unified, and the vorticity must have an Absolute regularity. However, excluding time as a dimension simply cannot be applied to *real* situations of a cultural vortex: time dissipates rotation, dissipating its movement as the vortex widens, introducing complexity, which further dissipates its movement; thus, Absolute Value gradually decreases in time, dissipating its energy; any introduction of complexity dissipates its vorticity ("The Effect"). As Crosbie Smith states, Sadi Carnot demonstrated that such a perpetual motion machine is possible only within the abstract; complex movement introduces too many variables (such as time) and inevitably dissipates the effects of such work (91-3).⁷⁹ The atom is not perpetual in its motions. It runs down like all matter, and as Bohr discovered, energy, like matter itself, occurs in

quanta, also known as packets (Bronowski, *Ascent* 336). When these quanta form crystals, they have a particularly concentrated power.

The doubling effect of the holographic/ hologrammatic crystallization of formerly sublimated desires is apparent, where the construction of the object of desire holds the key to the subjective role in the creation of its own objects of desire (Rosenberg “Dynamic” 9).⁸⁰ As Martin Rosenberg indicates, the idea of equilibrium as stasis is yet another problem, especially if Pound’s vortex is a “turbine,” an engine. This ideal is contradictory within the terms of Pound’s crystalline solidarity, so that the vortex itself must remain questionable as a “scientific” model. If energy and tropos is combined in an atomic/ quantum matrix, entropy is the inevitable result, and therefore, the “tropos” or transformational potential of the turbine will degrade. However, the complementarity of light particles and light waves (radiation) may lead to a transfiguration through their portrayal of states of inter-relations of things (not even the portrayal of things), the way of quantum (subatomic) physics (Capra 80-1). Dialectic paradoxes that seem irresolvable at the level of metaphysics can be explained by the apparent paradoxes within quantum levels of movement or transformations of things.

According to Rosenberg, Marx reveals that dialectic “transfigures” the basis of metamorphosis of texts and bodies (“Dynamics” 9). Rosenberg notes that bourgeois consciousness and society, upon which these artists base their conception of the world, is not only problematic but centered upon the ideology of crisis, ultimately of the dissolution of all culture as opposed to ideal states of being, and thus, concerns the idea that the purpose of dialectics is to *portray* chaotic states, the fluid movement of history toward entropic dissolution, the crowning point of which is universal crisis and resolution, the portrayal of which occurs in images of degeneration.⁸¹ The spin of the vortex moves in

one direction or another, according to its potential for positive or negative valence. I can extrapolate this principle in terms of positive and negative “do’s” or “don’ts” of the Imagist and Vorticist Manifestos.

The word as atomic unit could work as metaphor as long as an outside force acts upon it (like atom splitting), forcing its electrons to change to a smaller orbit, then the quantum of energy is given off; if changed to a larger orbit, then the energy is absorbed by the atom, explained by Einstein as quanta absorption, creating a photoelectric effect (Wark 376-7). The problem for the vortex is its centricity and deflation of audience interpretive powers. Pound’s “turbine” must be viewed as an imaging machine. The atom itself contains a kind of “window” whereby a spectrum is emitted, and therefore, it may well be the energetic turbine of Pound’s conception. If the “radiant node” of the atomic vortex is concentrated inward instead of generated out into culture, the vortex’s meanings cannot be disseminated out into the consciousness of Pound’s audience except by the force of its own radiation. In other words, if the vortex-poem or word- cluster absorbs energy, it will become “excited,” but it will only give off energy when it returns to an intermediate state of energy or to its original “ground state” (“Journey”). Only by changing by influence of other neutrons can the atom go to an excited state to begin with. Its “negative” capability enables it to give off light in a certain frequency, giving it a particular “color” of the spectrum, the “prime pigment” of Pound’s conception (“Journey” and Prigogine 220).

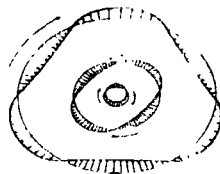


Figure 3.9. The Spectrum “Window” of An Atom and the Movement of Electrons that Energize it (Bronowski, *Ascent* 167)

Such a stage marks the transition from simply being to becoming, a transition from equilibrium to action and reaction. The infinite repetitions of this model of the vortex as a turbine represent an irrational number, a transcendental figure of a perpetual-motion machine, as Bronowski demonstrates in Figure 3.9. Unlike a true turbine, Pound's turbine acts more like another kind of machine, the Magnetic Resonance Imaging machine (the MRI). I found many more correlations between this machine and Pound's poetic word processing than with a turbine, since turbines do not work by themselves: they are always the generator of energy *in a system*. In the MRI, cross-section imaging takes place by means of its "radiance" of prime pigment, as Abram's notes, the Plotinian archetype of the projector, the ancient root-philosophy from which romantic theories of poetry derive (59). Atomic radiation⁸² gives rise to the vortex as a projection of the poet's resonant energy. Crystals are often used in the transmissions of such images.

The process of becoming for Pound is the process of dying, something he wants to escape in 1914's "Before Sleep." The essentialized image in "Before Sleep" becomes in itself a fetish, a corpse, as Daniel Tiffany reveals in his Marxist analysis of Pound's poetics. As his poems in *Blast!* reveal, he does little more than describe the process, without demonstrating how the form of his poems act as turbine. In "Before Sleep," Pound describes the motion of his vortextual consciousness and his idea of "lateral vibrations." In this poem, Pound defers to this Dantean vertical axis view of history as simultaneously displayed in the field of literature in one of his Vortex poems in the first edition of *Blast!* in 1914. In "Before Sleep," Pound complains that "lateral vibrations caress me,/ ... They work pathetically in my favour,/ They seek my financial good./ ... Undulent,/ Their realm is the lateral courses (I: 1,3-4, 9-10). Note Hinton's example of a fourth-dimensional intervention on this "plane" of consciousness in Figure 3.10.

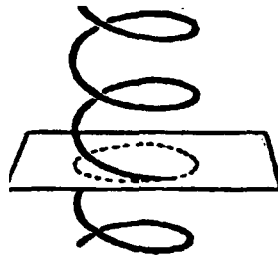


Figure 3.10. Hinton's Fourth-Dimensional Consciousness as illustrated in *The Fourth Dimension* (25)

Because these “lateral vibrations” are “undulant,” they also contain waves, so that Pound is intuiting the nature of this “atomic” light as being both particle-like and wave-like. They *are* wave-like, linear in structure, so they are not that different from the radiant energy of the vertical ahistoricism of Pound's method.⁸³ The fourth-dimensional movement of the wave goes through a spiralling motion; as the poet connects with the film as time series, within Hinton's description, “the intersection of the spiral with the film gives rise to a conscious experience” (Hinton 25). They are simply “deathly,” literary carriers of past artifacts, redundant. For example, “the gods of the underworld attend me, O Annubis” (I: 6) refers to the “corpses” of past literary methods, where he is “gone up as rocket/ Bending you passages from right to left and left to right/ In the flat projection of a spiral” (II: 4-6). The energy of light (and thus, enlightenment, the metaphorical lamp/mirror of Abram's theory of the artistic mind's perception) is simply referred to as a personification (Light! (II: 1), essentializing light's presence, relying upon light's cultural *a priori* figuration to explain its infusing energy.

In Canto I of 1917, he states that “the place is full of spirits/ Not lemures, not dark and shadowy ghosts,/ But the ancient living” (*Poetry* 116), a vertical view of literature as historically ever present, always alive but also dead, a commodity fetish haunted by the ghost of the author's intentions. The deathly “lateral vibrations” attempt to “seduce”

Pound's poetic consciousness by encouraging his "financial good," the "eikonic" images that he believes lie in the realm of death; when he addresses Pallas Athena with "Light!/ I am up to follow thee, Pallas./ Up and out of their caresses," he seems to be indicating that light provides him with escape from these "undulent" forces that pull him to earth: he is saying that his own "atomic" enlightenment has put him into a drugged state of ecstasy, somewhere between consciousness and dreaming (*Blast!* 47). "Light" provides his atomic form with the energy to rise above these deathly forces, to give him the "prime pigment" necessary for an original art, the "colors" of which are reflected through its emissions of energy.⁸⁴

Roman Jakobson describes this linguistic "power" within terms of Shannon's and Weaver's mathematical theory of communication: both written and spoken language constitutes a finite set of discrete, elementary informational units, arranged in simultaneous bundles of phonemes, concatenated into sequences, demonstrating that "form in language has a manifestly granular structure and is subject to a quantal description" (Jakobson 245). If these bundles have quantal potential, then they give off many small series of radiant bursts, but they are not continuous: their discontinuity is comparable to the movement of motion picture film--their spectrum of frequencies, because nonocular, are comparable to gamma radiation as given off when the atom is split; if ocular, then the atoms vibrate, giving off spectral "colors" (Bronowski, *Ascent* 338). The "crystals" of Pound's form act like prisms, where the "light" or "radiation" refracts through the crystal to form colors of the spectrum. Richard Bube explains that conductivity of a semiconductor (a medium through which energy passes) increases under illumination, that is, attains a *photoconductivity* through "direct" or "indirect" transitions of conduction; wavelength of light allow for a high rate of "excitation" of "free-electron plasma oscillations" (Bube

444). What this means for Pound's metaphor is that the metaphor acts as an imaging machine, through which "enlightenment" generates the power to move audiences. The vortex of energies resulting from this enlightenment is powered by the "race-consciousness" of continual cultural reiterations from past literary canons, reformed and reformulated through allegorization.

The centricity of the vortex becomes obvious when Pound refers to the "lateral" eccentricity of the vibrations of culture. Even though Pound tried emphatically to state that his language was one of form and color, and not "symbolical" or allegorical, Peter Nicholls states that "the problem was painfully clear in the poems he contributed to *Blast*, a mix of rather lame satire and coy epigram which hardly matched the vigour of his polemical statement 'Vortex. Pound' " (Nicholls 174). Meanwhile, in the *Vortex Manifesto*, Pound accused Futurism's vortex of being centrifugal, of dispersing meaning into chaos, indicating that his own vortex has a centripetal force imposed by its containment within the turbine: "Futurism is the disgorging spray of a vortex with no drive behind it, DISPERSAL. ...Impressionism, Futurism, which is only an accelerated sort of impressionism, DENY the vortex. They are the CORPSES of VORTICES. ...Marinetti is a corpse" ("Vortex" *Blast!* 153). A real turbine would require both centrifugal and centripetal force, both equal and opposite, for the force of structure is imposed from the outside, spins centripetally, then spins out radially, into culture again: thus, the constructionist culture prefabricates some of this energy beforehand. Pound's idea of purity and density of the radiant nodes of words describes a centricity that in a real turbine could not account for the exact potential of meaning distribution, because he ignored or at best, denigrated the potentially negative audience interpretation to these "atomic words," which is the current force of the paradigm. Dispersal (reflection) must

not occur for the reader, because that meanings that the “radiant” energy of meaning has bounced off the surface of the medium. “Refraction” of this energy allows it pass through the medium where the reader could then interpret the refracted “enlightenment.”

Diffraction of X-Rays would be an even better analogy to use, but the best one would probably be the Hologram: in Greek, holography means *whole writing*, and occurs when “an object is made to produce interference fringes in a photosensitive medium,” and is then reilluminated according to a pattern of the interference by light of the same wavelength, thereby producing a three-dimensional image of the original object, “including the differences in perspective one obtains with a change of the viewer’s observing position” (Jenkins and White 659).

If an X-Ray as the form of radiation was applied instead of regular light, a “radio corpse” would result, where a hologram develops into a “black body”⁸⁵ of the type that emits the highest frequency of energy possible. “Radio corpse” is the coinage of Daniel Tiffany, explaining this term as an image which has the power to change things through its “fetishistic objectivity,” especially elaborative of the poetic “spectral (and material) negativity of death” (36), where the image is the visualization of the unseen. X-Rays refracted through a crystalline lattice would have a similar effect as a “thick” or “volume” hologram, producing multiple scenes from the same photographic emulsion: in Pound’s vortex theory, the liquid crystal is the medium for the “process” of writing and its interpretation, and the poetic panoptic eye emits the radiant energy that diffracts through the crystalline latticework of the poem, holographically, to become the multiple scenes interpreted by the audience. This pattern of interference means using the repetitive subject rhymes, as well as mixing the genres of poetry with prose. The effect of this “mixing” of scientific images kind of has the effect of mixing metaphors and genres; Pound never quite

pulls it off. The physics of the hologram itself may be a clue as to why Pound's imaging machine has some problems when taken in consideration of imaging dynamics. As Fritjof Capra, author of *The Tao of Physics* explains, hologrammatic structure is an ambitious project, one which must involve the movement of the image itself as a *holomovement* (96).

Capra explains holograms in terms of David Bohm's theories on the notion of hologrammatic "unbroken wholeness," a holistic view of the world as a hologram in which an order of cosmic relationships is implicate and "enfolded" at a nonmanifest level where "each part, in some sense, contains the whole," and where "if any part of a hologram is illuminated, the entire image will be reconstructed" (Capra 95-6), similar to the "folding" that I discussed in the Conrad section, where the "unfolding" of action is contingent to every part of the whole. The hologram as model is a reification, a part-for-whole and vice versa allegory of the structure of the world. This matrix represents a theory of change and transformation through images, but interestingly, the structure of the hologram itself is not its emphasis (since "the hologram is too static to be used as a scientific model for the implicate order at the subatomic level" (Capra 96), but upon the structure of movement shown by the hologram. Pound's images project upon his atomic/vortex hologram through his own "radiant" forces were images of history as portrayed through literary allusions, the discursive vortex of culture.

Crystalline forms have the potential of chemical composition through which "fluid" action can take place at the microscopic level of the word as unit, and primarily, as Pound himself pointed out, the organic nature of *grouping as a condensation*, but one that cannot endure due to its unstable composition, with its center of being at a center point of control and harmony, but which can co-exist *concentrically* with other planes of existence (I Bell, *Critic as Scientist* 224). The dimensions within the crystal are important to

Pound's imagery. Optical illusions occur when one looks at four- or three-dimensional objects on flat two-dimensional paper; thus, perspective is important when we consider this line drawing. As Howard notes, in order to tell which ones proceed forward or recede backwards, crystallographers traditionally label them as + or -, because someone looking at them has to decide whether they are proceeding or receding, which cannot be told without some kind of referent, causing all kinds of optical distortions and subsequent confusion ("Introduction"). In *Osirus*, plusses and minuses take on extra significations of philosophical import, representing the warring notions of beauty and sublimity of form according to Platonic and neoPlatonic doctrines of *forma*. The crystalline faces of the word would effectively "reflect"⁸⁶ concentrated images through associative power (poetic metaphorical equation of agreement, rather than the contiguity of metonymy). In Pound's efficiency, words must carry within their forms the highest capacity for influencing one's audience in the understanding of meanings, which, like atoms, can be packed as multiplicities and have the potential for maximum levels of transformation through action. Pound describes this potential within algebraic terms of exponential multiplicities, as well as within terms of positive and negative polarized valences of force, the dialectic of which energizes the vortex it creates.

Pound's crystalline structure appears to have some potential for atomic power in the condensation of meaning, as Leon Surette has demonstrated with Pound's association with Mead's *The Quest*, as well as the potential for a critical model of ideal form. The conditions of growth of the vortex itself would thus be dependent upon the "growths" of crystalline structures, all different shapes and sizes according to influences of physical, chemical, or biological "pressure," determining its final appearance as more or less regular or irregular (Howard "Introduction"). As Howard notes, the Miller Indices of whole

numbers and letters that crystallographers use solve the problem of having a reference system for crystalline structure by providing a dimensional tool for the analysis (Howard), Pound's plusses, minuses, and algebra of symbols is also intended as a dimensional ordering system for poetics and the cultural "body politic" it influences. While Brian Ballantine suggests that the durability (hardness) of crystals may have been part of Pound's reasoning behind choosing crystalline structure, note that crystals grow and do not necessarily have to be rigid to do so: included within the biological realm of crystalline growth are proteins and amino acids, the basic building blocks for life itself. Stephen Toulmin points out Schwann's mid-nineteenth-century theories on the similarities between crystallization and cellular growth, responsible for much progress made in metabolic science (149). According to the NYU/ACF Scientific Visualization Center, geometric figures (like three-dimensional equilateral triangles) exhibit symmetry very similar to molecular structure, and chemical symbols are diagrammed much in the manner of the ideogram, where the structure itself indicates the relations (and thus content) of such molecular bonds; particle attraction is based upon having particles of opposite charge, which provides the sticking power for these molecules ("Molecular Modeling"). Thus, the *cellular* basis for crystalline growth of the soul of the artist is explained through the use of bodies as part of a process. *Cellular* growth is *liquid* in its movement, so Pound discovered that he had to re-format the thermodynamic breakdown and "sublimation" of "jewels," as in "The Jewel Stairs' Grievance"

As Ian Bell explains, "this shift from the macrocosmic to the microcosmic, to 'god' in a molecule or a cell, was the hallmark of the new transcendentalism and both literally and metaphorically codes the apotheosis of transcendentalism's organicist epistemology" (*Critic as Scientist* 221). Bell also notes that Pound's fascination with the pineal gland as

“the site of original image-making” and as the “gland of ‘lucidity’, of the sense of light analogous to the eye” had its basis in Gourmont’s “chemistry” of sexual attraction or repulsion as an energy form (*Critic as Scientist* 217-18). As Bell goes on to explain, “this double process of dematerialization and rematerialization marked a special means of appropriating the world” (*Critic as Scientist* 228). The potential of the fourth-dimensional imaging process with crystals is perhaps best illustrated in Alvin Langdon Coburn’s vortograph.

Concrete results of Pound’s experimentation with crystals appear in Alvin Langdon Coburn’s vortograph photos of 1916, Coburn’s best known work and the result of his collaboration with Pound, where Coburn actually used the refraction of crystals to create his desired effect of imagery, created by photographing multiple exposures of crystals and wood fragments, placed inside a triangle with sides composed of strip mirrors. This space of crystalline reflections and refractions is a hyperspace where all possibilities of cause and effect are paradigmatically sited within the consciousness of the artist. Combining Futurist mechanical form with Cubist synthetic texturization and layering, the dimensional aspects of this portrait are achieved through the diffractive imaging that occurs as the result of distorting the original image through the diffraction and reflection of mirrors and crystals. Crystals reflect Pound’s inner poetic subjectivity, as one can see from Coburn’s vortograph in Figure 3.11.

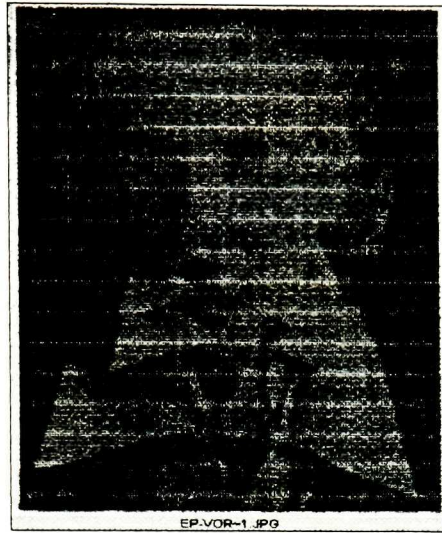


Figure 3.11. Coburn's *Ezra Pound Vortograph*, 1916. (Coburn)

Coburn's 1916 vortograph shows the prismatic effect of using crystals in photography gave a material basis for Pound's vision. Pound's own influence for using fourth-dimensional images has been established within Canto 49, written in 1937, where he calls "the fourth; the dimension of stillness," and then, in a 1942 letter to Luigi Berti, Pound again refers to the silence and motionless "Dantean" notion of a dimension above the Primum Mobile, "which compenetrates the Euclidean dimensions" (Massimo Bacigalupo qtd. in I Bell, "Modernist Spirals" 2).⁸⁷ Pound was aware of the fourth-dimension through other sources, such as H.G. Wells, Poincaré, and Fenollosa, who were also influenced by Charles H. Hinton's ideas on the fourth-dimension. Ian Bell links the fourth-dimension within Pound's works to the images of the atom, the molecule, and crystals, noting that Pound's desire for clarity and transcendence led Pound to readings of Charles Hinton's *The Fourth Dimension*, James Huneker's interpretations of Gourmont's materialism, Gourmont's *Chemin de velours* (1902), where "the physics of thought" led to a conclusion of the concrete image, and Cora Williams' *Creative Involution*, whose

mathematical thesis explained “the conduct of certain molecules and crystals ... as a fourth-dimensional activity” (I Bell, *Critic as Scientist* 221). To become a literary artifact, the image must be “frozen,” static, but in an invisible dimension of thought and spirit.

In the 1880s, Charles H. Hinton proposed an extrapolation of those principles of agency involved in the movement of the vortex, in terms of what Hinton referred to as a “fourth” dimension, describing an image in which a spiraling vertical point intersects with a horizontal plane, in order to represent a time series; supposedly, the intersection point would “give rise to a conscious experience” of the point where “the horizontal plane, as penetrated field, indicates a universe of atoms in vortical motion, giving rise to structure” (Hinton 25). Hinton’s conception of this “spiral” as a mode of consciousness, as well as Maxwell’s and Helmholtz’s ideas of creative motion, inspired a number of imitations in its early Modernist period of 1890-1915. Hinton insists that such motion is abstract, rather than real, but that it can be phenomenal (24). Bell notes that the surface hides a fourth dimension “not only of form but of intimate expression which goes beyond conventional [Euclidean] geometry” (“Modernist Spirals” 9), a hyper-reality where subject/creator melts into object/ text, a creative ideal *and* moral goal (I Bell, “Modernist Spirals” 23; Clarke *Models of Energy*).⁸⁸ The ideal of this model maps the mind’s process as a comparative metaphor of space’s infinity, very similar to Conrad’s “hyperbolic” metaphor.⁸⁹ If Pound’s geometrization of characters is laid out from a fourth-dimensional perspective, his taxonomy as a typological system provides for the arrangement of identities along several axes, thereby replacing their classificatory schemas “by reference ‘spaces’ of several ‘dimensions’,” an ordering system rather than simply a level of classification that “allows for subtler distinctions than classification” and which can even take the precision of quantitative characteristics (as in *Osirus*) in order to provide a

maximum level of objectivity (Hempel 153). Dimensionality of Pound's taxonomy takes the reader to a new level of observation. The crystal's quasi-linear order presents a strata of dimensions within objects, including volume and depth, which would allow for an apprehension of qualities not normally "seen" in literary description, allowing the observer to merge⁹⁰ with the observed in ways not accessible to normal human sensory apparatuses.⁹¹

As Coburn's vortograph demonstrates, the crystal can be seen within terms of fourth-dimensional imaging, because of the crystal's reflective and refractive qualities, as well as for its usefulness as an object through which a resonance can occur. Pound discovered that crystalline structure offers a geometry consistent within an isomorphic, closed set of given limits and relationships, perfect as a figure representative of the Imagist qualities of economy and vitality, in addition to its potential for a kind of reification of poetic syntax. Fourth-dimensional spacing is potentially infinite within its possibilities. Taken in these terms, Pound's form becomes a hypercube, and in its full material analogy, a quasicrystal. The hypercube is an invisible cube within a visible cube. Tony Robbin states that the construction of the hypercube occurs as a perpendicular displacement of exponents. This idea corresponds with Pound's description of the algebra of words, where force of the words is multiplied exponentially according to the power of tradition and "agreement," of association, as a *projection* of a fourfield; thus, this projection of the fourfield is capable of partial rotation within the fourth dimension, while seemingly static within three-dimensional time and space (Robbin 68).

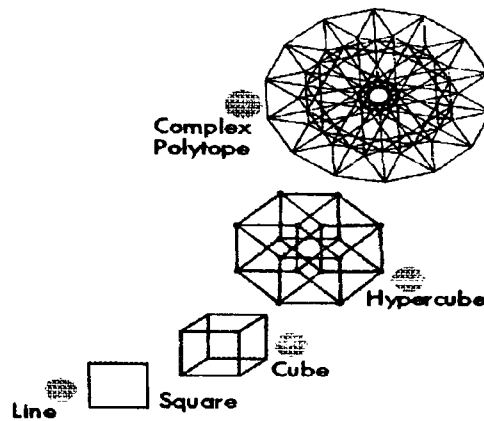


Figure 3.12. Progressive Stages of Dimensional Growth of the Crystal
 Courtesy of Trinity College “Hypercubes” (“Hypercubes”)

This kind of hypercubing follows the same dynamics as molecular bonding, a phenomenon that reveals why Pound chose the atom and the crystal as images for creator and network of interconnections within art: the quasicrystal is the result of such interconnections. As the illustration in Figure 3.12 indicates, the hypercube is the stage at which a definite internal cubing occurs from the perspective of an “atomic” radiation of energy, exponential in its growth. The result image is that of seeing the world from a hall of mirrors, finally resulting in the complex polytope above, the form of the diamond, which explains that metaphor’s previous use.⁹²

Robbin reveals that it requires stereo perspective to perceive the entire image of a four-dimensional portrayal of the hypercube, one eye for the rotation (of the vortex itself) and one eye for its static qualities, which explains why Pound’s atomic artist, as generator of images, is capable of dimensionally superimposing images one on top of another. According to Robbin, the analysis of geometric figures occurs within a stereo interchange of the left and right sides of the brain with each other, in Robert Ornstein’s investigations termed as communication between the conscious and the unconscious, and ultimately, the pattern-making capacity that is ubiquitous to human language; therefore, the patterns of

conscious scientific models gel into the unconscious artistic creativity by way of seeing the unconscious as a second brain, a hypercube, superimposed upon the cube of the first, conscious brain (Robbin 75).

Pound's crystals are connected directly to Upward's "whirl-swirl" and Yeats' gyre, especially in Upward's suggestion that the vortex swirl is "no longer a mere word," and that "it is a magic crystal, and by looking into it, you will see wonderful meanings come and go...reflecting the thoughts in your own mind. It is a most chameleon-like ball" (Upward 198). Yeats' "Rose of the World"⁹³ as Great Wheel and Gyre corresponds to Pound's ideal of the vortex, where concordia and discordia eternally replace each other in converse cones, the Platonic ideal of eternal beauty, because of that crystalline nature of the modern, the cube within a cube that is invisible, where "the radiant world" is not visual but nevertheless felt (*Literary Essays* 154). In the modern world, Pound finds that "magnetisms that take form, that are seen, or that border the visible" are like "the glass under water, the form that seems a form seen in a mirror" (*Literary Essays* 157). Pound maintained that one must give these invisible forces some form in order to reveal clearly what they mean for this modern world, where the invisible internalized processes of thought are given form through the tropes of the atom and the crystal and their "hidden" forces.

While Pound marked the above sentences in his copy of Upward's book, he failed, somehow, to grasp its quietism, just as he failed to grasp the quietism of Confucius' odes. What he saw, instead, was "the god inside the stone." As Ian Bell explains in his discussion of Cora Williams' influence on Pound, Williams notes that "our gods are become microcosmic; god may be a molecule, a cell. A god to put in a phial" (qtd. in I Bell, *Critic as Scientist* 221). Crystals, as hypercubes, thus reflect the artist's perspectives,

just as a DNA crystal contains the genetic structure for every living creature on earth, the perfect part-to-whole synecdoche. Yeats' historical gyre,⁹⁴ seen as a helix, assumes importance for the emergence of mid-twentieth-century biology in the form of yet another true crystal, DNA, the formation of which *does* directly determine morphology, and the form of which must degrade at the atomic level. Figure 3.13 is an illustration of DNA structure, while Figure 3.14 is an actual X-Ray of a DNA crystal.

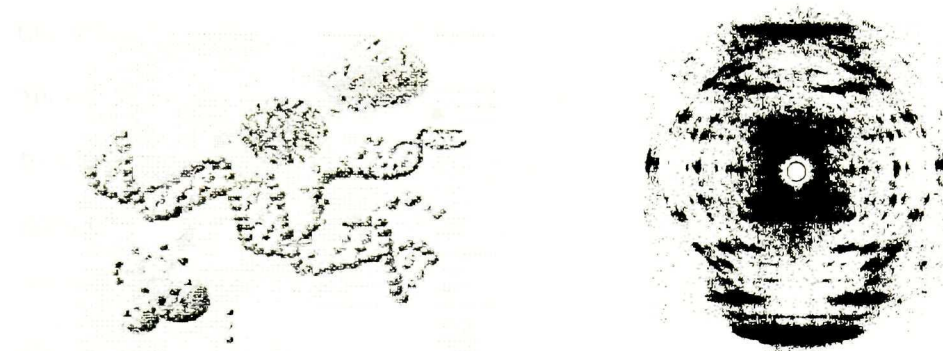


Figure 3.13. Human DNA (“Introducing...”) Figure 3.14. X-Ray of a DNA Crystal (Bronowski, *Ascent* 178)

Bodies fall apart, a question of thermodynamic degradation as atoms assume more disorderly states, tending toward equilibrium, a interpretation made by Boltzmann (Bronowski, *Ascent* 347-8). As Bronowski's picture of the DNA crystal reveals, the atoms forming the configuration within its crystal reveal a *regular* symmetry. Yeats did not know of the existence of DNA crystals; he *did* intuit the fundamental nature of all things as tending toward entropy, influencing Pound in his own view of poetic generation as a human life process. The one-to-one reified relationship across levels of containment within beings appears to be at hand within the psychology and cosmology of reflected and refracted beings in Pound's poems.

Reflections within the crystal, whether in the form of water, light, or gems, demonstrate some kind of pattern going on with the crystal as its focus in the Cantos. My argument is that these “subject rhymes” extend their metaphorical repetitions at specific locations within the Cantos for particular emphasis of the “process” that Pound is using to write these poems; the metaphor of the crystal becomes a metonymy that connects the very different myths in such a way that is not exactly a repetition in the full sense of the word, but rather, recurrent allusions to the same process, which is what makes Pound’s crystals what Tony Robbin refers to as a “quasicrystal.” When these “crystals” are not exactly the same, as in Pound’s Cantos as he moves from the subject matter of Hell, to Confucious’ “process,” to the artist as crystalline sphere, the hypercube (the vortex) becomes what Robbin refers to as a quasicrystal,⁹⁵ a crystal that is a crazy-quilt paradox that frustrates normal repetitive patterns, even if it seems like a pattern (77-80). Rudolf Rucker, author of *Geometry, Relativity, and the Fourth Dimension*, estimates that this is the simultaneity of parallel dimensions in which a “mantra,” a coded pattern of repetitions that give the appearance of looping, and thus of timelessness” (61-2), what Katherine Hayles refers to as a feedback loop, for Pound, the subject rhyme pattern. Bronowski mentions such repetition in conjunction with linguistic “atomism,” explaining by way of E.H. Lennenber’s linguistic theory that animals acquire concepts as conditioned responses by repetition, independent of language; “for him words are names given to pre-formed concepts, and speech is generated by putting such names together” (Bronowski, *Sense* 146), meaning that such naming practice is conventional. Imagery is pre-linguistic, and written language is the result of conventional speech, institutionalized through constant repetition in figures of speech as in literary allusions and personae.

Both external and internal space (occupied by and surrounding such objects) is involved in quasi-crystal dynamics, and one could easily get caught up the dualism surrounding the internal and external aspects of this quasicrystal. However, Pound magically animates his quasicrystal, with the artist as the animating *deus ex machina* of this structure. His move from the metaphor of atomic structure to its combination with the metaphor of crystallization is significant for all artists of the Modernist era, because it reveals the ambiguity of needing both the conflict of chaos (vitality of spirit, for example) and the purity of a “crystallized” nature, where solids have a high melting point, the literary artifact. Crystalline structure bespeaks a chemical origin where growth is exponential, its atoms potentially reactionary in combinations with other atoms to form these crystalline structures, and where regularity of form is iterative, repetitive, and therefore generative: the dimensional applications of the crystal, grown within an atomic or molecular matrix of form, have a mystical quality of vitality, yet a regularity of form that would be the perfect form to represent any number of ideal values; no wonder the Modernists, especially the Expressionists, prized its form so, where the shape and size of crystals might portray the structurization of any number of things, including art, architecture, the poet’s soul, or the ideal reactionary object. The mantra of repetitions in the use of the crystal in the Cantos confirm its importance as a trope, as a way “to be conscious in static space-time instead of in moving space” which Rucker states is “the goal of the mystic’s quest” (60-61).

In 1918, when Pound published his *Memoir of Gaudier-Brzeska*, he reiterated the principles he founded in his Vortex manifesto, explaining the nature of “plastic moving toward coitus” (*Literary Essays* 150), possibly picked up from Kandinsky. For the Expressionists in particular, the crystal appeared to be the perfect object of purity and

radiance of energies, solidly formed specifically from a chemical reaction which tropes the “passage through things” in the journey for portraying a “spiritual character of the world in abstraction,” capturing the sparkle of mystical energy, “the ambivalence of cosmic sublimity and boundless demonism” (März 66). As Sheldon Cheney explains, the quality of “plasticity,” that elusive ability to form art by the will, is, ironically, also referential to this Expressionist aesthetic: conception of the ultimately real is part of the ancient Greek aesthetic, from Schwann’s metaphor of “plastic” phenomena (Toulmin 349). As Cheney reveals, this theory *is* an Expressionist ideology of form as the creative essence of a deeper order, where the artist’s ability to achieve *plasticity*, a “ ‘crystallization’ in little of the universal architecture (the mystic’s view)...a subjective revelation of an image born to an artist out of the contact of his individual sensitivity with ‘life’ ” (107).

Mike Howard notes that the action of crystalline interatomic transformation reveals the passage from states of liquid movement (which cannot be analyzed, due to their enormous complexity) to states of solid geometry that *can* be analyzed (Howard “Introduction”). Therefore, the movement of chemical reactions offers the analogy of change sought by Expressionists, while also offering the analytical form produced by solids and their subsequent geometry, and through Kandinsky’s influence, Pound discovered this atomic “timbre” in the structural potential of the crystal. The “crystallization”⁹⁶ of understanding is a metaphor for the ability to perceive and interpret the values intended by the artist; thus, the crystal also stands for a kind of fetishization of the literary artifact itself. The crystal as structure appears at first to solve some of the problems of posing theories that offer both transcendence of the mundane *and* a specific reliance upon mundane images by revealing the perfect structures *within nature*, through organic means. The crystal offers a model for the perfect mediator between spirit and

body, mind and the cosmos,⁹⁷ as the perfectly “resonant” and vital form for the art process *and* form, a form which regularly expresses growth within specific rhythms, as well as specific applications of bits and pieces of literature from the past, reformed.

In “Plotinus” and *Osirus*, Pound demonstrates the ambivalence of this position for the artist as a war of positive and negative forces. The end of conflict through atomic crystallization became the quintessential structure of the Expressionist’s Romantic utopian ideal,⁹⁸ equating the crystal as a “symbol of new faith,” the fascination with reflection and prismatic crystallized nature: “what one sees must be inwardly remolded and crystallized” (März 67). As Pound articulates in his *Memoir of Gaudier-Brzeska* of 1918, in explanation of his 1913 penning of “In a Station on the Metro,” he discovered the necessity for having a pattern, or something very like a pattern, in his poems, “if by ‘pattern’ you mean something with a ‘repeat’ in it,” in which images are created by piecing together fragments of different thoughts, not simply reiterations of complete thoughts from the past (87-88).⁹⁹ They are patterns that are not exactly patterns.

An essential use of the crystal as metaphor occurs in 1919’s Canto 4, the first to be published of the Cantos, despite its number. Rather than focusing on Odysseus, as Canto 1 does, Canto 4 starts with the burning of Troy. Pound uses a technique Froula refers to as a “subject rhyme,” a “repeat in history” (Froula 139). Three allegorical myths are stacked into this Canto: the metamorphoses of Procne and Philomela, and the story of Soremonda and Cabestan (in which Soremonda’s jealous husband kills Cabestan and Soremonda commits suicide), and the metamorphosis of Actæon. The first mention of crystal occurs in this Cantos, which is more than merely a subject rhyme within the same poem, but an extended subject rhyme, allegorizing the crystalline as the element of *claritas* necessary for poetic generation, throughout several of the Cantos.

Thus the light rains, thus pours, *e soleills plovil*

The liquid and rushing crystal

beneath the knees of the gods. (*Selected Cantos* 8)

The repetition of “beneath the knees of the gods” occurs again in the same stanza, but does not recur again after that. This part of the Canto describes Actæon’s metamorphosis into a deer when he accidentally discovers the bath of the goddess of the wood, Diana, which melts into yet another mythological scene. Froula points out the “subject rhyme” repetitions within this particular Canto, its real significance is its allegorical connections to other mentions of crystals in other Cantos. These repetitions serve other purposes, as well, as these “subject rhymes” act as fourth-dimensional patterns. The “subject rhyme” in this mention of water as crystalline is significant: the subject rhyme reiterates an idea without exactly repeating itself, reinforcing its importance as signpost through allusion. The crystal refers not only to the literal water in which Diana is bathing, but to the “process” in which the personae morph, as well as a metanarrative reference to the “process” by which Pound is writing this poem. He compares the similarities between several myths, thereby focusing on their themes of change as significant to the structure of all of the Cantos, an aspect one can only see if all of the Cantos are taken together as an entire book: the *Odyssey* and *Iliad* Cantos, the *Pisan* Cantos, and the *Confucian* Cantos. The form becomes the teleological end of this transformation, where resurrection through the recycling processes of condensation and sublimation reconcile spirit with nature for the reader through the linguistic medium. Similarly, the process of poetic composition is metamorphic for the poet, an act of sacrifice and self-mutilation that goes unappreciated, especially in his own country, and even by the gods themselves. The revelation of their crystalline process is not something for human eyes, it seems. Condensing truth into

poetry involves the poet's self-sacrifice, a notion Casillo confirms (289) to an audience that he knows is going to dismember and "consume" his poetry, while the metamorphosis themes within the poem itself metanarratively imply the "processing" of poetry as a shifting of forms.

Pounds re-animates the corpses of dead words within the macrocosmic order of making and unmaking through his electromagnetic metaphor, invoking "the Image as a figure of revolutionary power, especially when he associates it with the artistic and sociological project of the avant-garde [especially the Expressionists], or with fascism," where "the Image as a vortex marshals the atavistic power of the crowd against 'clichés,' against the magnetism of dead thoughts anchoring the spell of realism [as revealed in "Before Sleep" in 1914's *Blast!*]," in which Pound uses primitive images to "counteract the fetishes of the mind" (Tiffany 64). This fetish formation is significant to the idea of metamorphosis and transcendence of the artistic sensibility that Pound advocates within the vortextual whorl of his Cantos, essential to his metonymical project within the instrumentation of microcosmic to macrocosmic levels of change, a disruptor of established systematic orders.¹⁰⁰ Death is the process whereby such transformations paradoxically take place, the stasis against which all dynamics can be interpreted. Expressionism sought unification within society and art, in response to the alienation of urban life and the turbulence of society through a return to a utopian cult of nature (*Naturutopien*),¹⁰¹ and an art that could spring to life, and crystals, as metaphor for structure, offered an unification of both form and reaction.

The transformative powers of the crystalline "atomic" body is an objectification of the mind of the poet and the poetic word as individual unit packed with the energy of potential meaning, all of which stand to transform the energy of the vortex, the culture, of

the time. Froula explains Pound's atomic/crystalline/electromagnetic "Rose in the Steel Dust" as a throwback to medieval conceptualization of hidden forces, which he illustrates as his ideal of "forma" in his essay on Cavalcanti in 1932's *Guide to Kulchur* (Froula 216): "the *forma*, ... the concept, the dynamic form which is like the rose pattern driven in the dead iron-filings by the magnet...: cut off by the layer of glass, the dust and steel filings rise and spring into order. Thus the *forma*, the concept, rises from death in a never-ending chain of conservation of energies" (Pound, *Guide to Kulchur* 152). Pound implies that relatively simple forms can possess meaning beyond their visible capacities, because science typically reinforced the ideal of simplicity as the control of its own economies: to introduce true variables would be to complicate scientific systems into complexities that scientists would be unable to portray by virtue of their expanding bifurcations and mutations of form. This principle is at work in man's evolution, as well as in geological formations. Thus, form gives order to the chaotic concept, and through his metaphor of electromagnetism, demonstrates how that order magically "arises" out of chaos.

When Pound uses the Rose in the Steel dust metaphor, vital energy is at its associative center; when he uses the atom, it is with its nucleic centralization of artistic impetus in mind.¹⁰² Pound's form is dependent upon his subject. Pound did not find his "liquid" crystal until his ordeal at Pisa, where he wrote the Pisan Cantos and used his famous "Rose in the Steel Dust"¹⁰³ metaphor to accurately describe the full potential of his "radio corpse," his crystalline genesis. Meanings *empower* words, allegorized in Pound's physical vortex as a molecular vortex, like that of Maxwell's model of the vortices created by electromagnetic bonding, as shown in Figure 3.15.

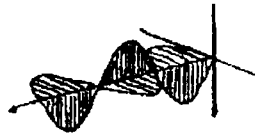


Figure 3.15. Maxwell's Model of Vortices Created by Electromagnetic Current
(Maxwell)

For Pound's art, diffusion¹⁰⁴ into optical effects takes place at the level of the subject rhyme, where patterns emerge as energetic excitation at the "atomic" [poet's] level of word-generation. As the Rose in the Steel Dust metaphor indicates, metals (such as gold, that eternal atomic substance of valuable exchange¹⁰⁵) and crystals (like diamonds) are electromagnetic semiconductors¹⁰⁶ "distinguished by their high reflectivity and opacity except in very thin films" (Bube 402). For the reader, "dominant absorption" of this "energy" would occur in the semiconductor medium of exchange (words) through the ecstatic/excitation of an electron in the atom (the energy of "prime pigment" of the poet) from a "valence band" (suggestion) to a "conduction band" across a forbidden gap (Bube 402). In this case, Pound's crystal therefore acts as a radio crystal would, as a medium for reception and transmission, where the "crystal" of the word becomes the medium for translation of information. For the reader, a gap lies between the author and the audience's understanding, a problem of the medium of language as semiconductor. As *Osirus* indicates through Pound's use of positive and negative "valences" of energy presented, "absorption rate" follows from the exact juxtapositioning of words, their "polarization," configured according to vertical axes, in Pound's case, the epochs in his career of Imagism and Vorticism, the time lines that formed the centrality of his discipline. Polarization provides the balance of creative evolution, since "life does not proceed by the association and addition of elements, but by dissociation and division (*Selected Prose*). The *energy* of the poet must be translated through the axes of a timeline of his life, one

subject to thermodynamic degradation of the human body, but which transforms the spirit of the author to the audience via the radio corpses of words, as Daniel Tiffany coins them. Words infused with objective imagery impact the senses, particularly the visual sense. Pound saw the process as a crystallization of artifacts, but one which must have vitality, fluidity to act, which is why metamorphosis works in terms of a theme in so many of Pound's poems, working through the trope of crystallization and its breakdown. He would continue into this vein of thinking until his last published poem, Canto 116, in 1969.

For now, I will move back to the era of Modernism proper; the difference between Pound's initial uses of the atom and the vortex from 1908-1920 vary substantially as he moved from his pre-Mauberley era to his post-Mauberley era. Pound's use of scientific figures varies from one era in his career to the other mainly in his advancement from an ambiguous ideal of centrality in the relationship of the "atomic" poet to a more specific one with his "liquid" crystals and their motive political powers of persuasion. His early Modernist works set the stage for Pound's descent into his own maelstrom, his own personal Hell, the move from a focus on artistic individualism to a communal fascism. Pound's move from London to Italy proved to be his downfall; becoming Mauberley, he failed to recognize the real power of politics, a power that pervaded not only discursive propagation, but the substantial economy supporting it at its base, the engine of the city. Conrad was not lost on this power, as Pound was, and while Conrad lived only until 1924 to see the most decadent stages of Modernism, by then Pound was lost to his own fascist ideals. As a young director, Fritz Lang was already making movies by that time on a variety of subjects, many of them with explicitly German themes, and he had already developed quite a substantial film repertoire, especially on that most favored of Expressionist subjects, death and the degradation leading to it.

Lang had grand ideas in his figure of the cyborg as reification of the city, a city gone mad from its own chaos. The cyborg is the ultimate figure for the transformational stages of human being and becoming, revealing how order arises out of disorder in the milieu of language and its symbols. Therefore, in my analysis, I now move from hologrammatic phenomena of Pound's dissipative poetry to Lang's portrayal of order out of disorder, where the dialectic between chaos and order work to demonstrate one's necessary yet ironic interaction with the other, similar to Conrad's technique of ironic polarization. Lang's text reveals the last stage of Porush's categories of chaos, where a transference occurs between "the locus of reality from the microscopic world, where the goal is simplicity (the sort of simplicity that would be indicated in a unified field theory--the simplicity of *being*) to the macroscopic, where the emphasis is on complexity and time's arrow (the science of *becoming*)" (60). In this last category, chaotic forms work to collapse the distinction between the natural and the artificial, according to Prigogine's chaos theory, the result reified in the body of the cyborg. Her disorder demonstrates the need for her subsequent destruction, thereby bringing about the re-organization of order in *Metropolis*.

Notes

¹ The “acorn” of light is discussed in Canto 116 as the great crystal ball, the most perfect of crystalline forms. Before I can discuss the crystal in all its depth of meaning, I need to establish the atom as the analogical source of vortex energy in Pound’s conception, since the crystal grows from this “atomic” matrix.

² The definitions of atomism expanded as the theory was applied to other fields: in sociology, atomism included “any theory according to which social institutions and processes arise solely from the acts of individual men;” atomism can mean a “foregoing tendency accompanied by or arising from a strong subjective individualism;” or according to political science, atomism can mean “the division or tendency to divide into subclasses, groups, or units of a given society” (“Atomism”).

³ Leucippus was born in the same year that Confucius died, 479 BC. Since Pound used atomist theory for “Plotinus” and he did so much translation of the Confucian odes, I thought it might be interesting to consider if Pound made that connection himself.

⁴ The view that something must always come from something else particularly affects conceptions of time and space. As Prigogine demonstrates, “in mechanistic science, events begin with ‘initial conditions,’ and their atoms or particles follow ‘world lines’ or trajectories” which “can be traced either backward into the past or forward into the future. ...it is reversible time, associated with ‘closed systems’ ...that may well be the rare or aberrant phenomenon” (Prigogine xx-xxi). Perception of time and space confounds the observer, since the position of perspective would necessarily involve the observer’s social sphere of being. One can see that time must be involved with the perception of space. In real time, time flows from past to future, but in the virtual world of narrative, through the use of flashbacks to portray history, time’s reversibility enables authors to capture moments of time that have already happened; real time must be perceived differently in some ways from narrative time. The influences of atomism would be connected to this conception of time and space as sequential, even to the concept of entropic heat death as the result of gradual degradation of atomic energy.

⁵ According to Manley Hall, the Greeks believed that “man himself was the key to the riddle of life,” and they split human anatomy into two parts, the superior of which is invisible and the inferior visible, with the idea that while form is a part of spirit, “spirit is more than the sum of form” (73). The ancient Greeks formulated human body structure according to a three-dimensional view of it having an upper, a middle, and a lower center, but the three centers are controlled by the upper, which is the point of spirit (Hall 73-74). The result is the formation of a cone, where the center is expressed at its upper most tip as

a point of generation of spirit, while the downward circumference is matter, expressed as a descending apex; as seen from above, the point is directly in the center of a circle (Hall 74). Hence, the original connections made between the body and the “cone” were used to explain the complex nature of human biology.

⁶ The Monad is very similar to the Buddhist myth of the mustard seed and its “wisdom,” an ideal figure that many transcendentalists like Emerson were fond of using. Emerson in particular refers to the mustard seed as the transcendently perfect object of correspondence, an aspect similar to Pound’s atom “on creation’s throne” and the vortex as corresponding energy that grows out of his own energy, thereby creating form, as well as to Pound’s interpretations of Chung’s unwobbling pivot.

⁷ The revival of atomism occurred René Descartes’s existential theory of *Cogito, ergo sum*, “I think, therefore, I am.” Descartes’ theory is derivative from ancient Greek theosophy. This chestnut provides part of the clue to the structure of Pound’s Expressionist focus on the subjectivity of the artist as the motive force of poetry, derivative from sixteenth-century experimentation that produced the vacuum that Aristotle had believed impossible which meant that Democritus’ theory of atomism had possibilities after all, recalling that atoms could move in a vacuum (“Democritus” and Leibnitz 85-6). The idea of “*Cogito, ergo sum*” a reiteration of this ancient philosophy, forgotten in the influence of Christian allegorizations, but reformed in a way that would not disrupt Christian theology of the centrality of the soul as part of God’s universal architecture.

⁸ Many poets seized on this idea after Gottfried Leibniz published *New System of Nature and the Communication of Substances* in 1695. Up until the Industrial Revolution, many poets poked fun at Leibniz’s theories in verse and prose. For example, Jonathan Swift satirized Leibniz’s “Substance, Life and Activity” from *New System of Nature and the Communication of Substances*, in which Leibniz presents the idea of the Monad within ever more minute forms (Toulmin 341).

⁹ According to Smith, “the soul *directed* the action of matter and energy... Free will thus appeared to take advantage of instabilities and discontinuities in mechanical systems. ...Such discussion of ‘directing power’ provided a major context for Maxwell’s ‘statistical’ interpretation of the second law of thermodynamics” (Smith 249).

¹⁰ By the time that Niels Bohr proved Max Planck’s quantum theories on atomic energy, the age of Modernism was already in full swing. It would take another twenty to thirty years before even the scientific community would really begin full-scale applications of wave theory and relativity, where atoms could be combined with the idea of the energy they produce to form the theory of relativity and quantum mechanics that would transform

culture into one of atomic energy.

¹¹ As Abrams reveals in *The Mirror and the Lamp*, a “conspicuous parallelism [occurs] between this basic pattern of mental activity [associative attraction as the principle breakdown of resemblance, contiguity in time or place, and cause/effect, and the idea of the assemblage of parts (images) as replicas of original perceptions of sense] and Sir Isaac Newton’s scientific theory of mechanics [excluding its quantitative aspects]” (163). According to Abrams, “(1) The unit ideas of mind correspond to Newton’s particles of matter. ... (2) The motion of ideas in sequence or ‘trains’ is the mental equivalent of the motion of matter in physical space. (3) The ‘uniting principle’ or ‘gentle force’ (...association) adds the concept of a force effecting that motion” (Abrams 163).

¹² Elementariness of artistic form was the central problem facing artists who needed a correlate for the perfect building blocks of art. As such theories circulated in culture, conception of these units with their source of transmission becomes more understandable.

¹³ “Discordia concors” was a term coined by Samuel Johnson in *Life of Cowley*, referring specifically to metaphysical poetry’s combination of dissimilar images or discovery of occult resemblances in things apparently unlike, an inversion of Horace’s *concordia discors*, meaning “harmony in discord” (“Discordia Concors”).

¹⁴ T.S. Eliot used the phrase “dissociation of sensibility” to describe the immediacy of metaphysical poetic sensibility to experience in *The Metaphysical Poets* of 1921, which basically criticizes seventeenth-century metaphysical poetry for its tendency of using language which dissociates experience from thought. Such theories on discordia concors influenced the formation of Modernist poetics in terms of bringing this immediacy of material experience back to poetry that many poets like Pound and Eliot felt was lacking in the poetic legacy of the Symbolists.

¹⁵ This passage in “Psychology and Troubadours” reveals a direct connection with Hulme’s Bergsonian ideal of fluidity:

Let us consider the body as pure mechanism. ... We have about us the universe of fluid force, and below us the germinal universe of wood alive, of stone alive. Man is...a mechanism...rather like an electric appliance,... Chemically speaking, he is *ut credo*, a few buckets of water, tied up in a complicated sort of fig-leaf. As to his consciousness, the consciousness of some seems to rest, ... in what the Greek psychologists called the *phantastikon*. Their minds are...circumvolved about them like soap-

bubbles reflecting sundry patches of the macrocosmos. And with certain others their consciousness is “germinal.” Their thoughts are in them as the thought of the tree is in the seed, or in the grass, or the grain, or the blossom. And these minds are the more poetic... .
(Spirit of Romance 92-93)

¹⁶ The strong reaction toward Marinetti’s Futurism was in part due to the personal attacks that took place between Hulme and a critic, Ludovici, from 1910-1913 (Levenson 121). Ludovici’s reviews attacked the works of Jacob Epstein, and Hulme rallied to Epstein’s defense (121-22). As Levenson notes, Marinetti’s involvement in this matter was probably the final factor leading Wyndham Lewis, Pound, Gaudier-Brzeska, and Epstein to unify the Vorticism movement with the publication of *Blast!* (124).

¹⁷ Walter Pater explains the meaning “correspondence” in the preface to his “The Renaissance:” “...one must have in mind the connotations alchemical, astrological, metaphysical, which Swedenborg would have called correspondences...,” since “The heavens were, according to the Ptolemaic system, clear concentric spheres with the earth as their pivot; they moved more swiftly as they were far removed from it, each one endowed with its *virtue*...” (18-19).

¹⁸ Plotinus was an Egyptian-born neo-Platonic who “had a timeless and spaceless world of thought, which was a model of the phenomenal world”; however, “he was a mystic, and his views are phrased in the obscure language of that point of view, which defies simplification and condensation” (Fraser 15). This mystification is an interiorization of thought of the individual poet, extrapolating that “space” as the realm of consciousness in terms of intellectual sensibility, a question of subjects and their agency, which seems to guarantee both objectivity and positioning the artist as divine. For more on Plotinus, see his *Enneads*, Plato’s double residence of ideas (“Plato”). In order to understand Pound’s system, one must first understand that number in the Pythagorean *Monad* is defined as “the extension and energy of the spermatic reasons contained in the monad,” where all numbers figure on a one-to-one exponential basis, all adding up to make the One Mind of God (Hall 70-71). The title of the poem “Plotinus” signifies this One Mind of God. Significantly, names are also associated with this *Monad* of the One, among them Chaos, Abyss, Morpho (Venus), Apollo, Prometheus, Geniture, and Substance (Hall 71).

¹⁹ Atomic form gave Pound the ability conflate form with content, enabling him to reify his own persona within the scientific model of the atom. Within “Plotinus,” the atom can be seen as a personification of the microcosm/macrocosm allegory of man’s relation to the universe, where small scale sign is ratioed to large-scale order. This figure portrays the active agents which interact in a material system in an exchange/circulation of values

(Fletcher 110). The atomic unit, as a transcendental subject/object, is reified to represent the human body, capable of self-replication and production of objects. This matrix of universal order is portrayed as a series of hierarchies, the same allegorical image Aristotle proposed for his Kosmos, the microcosmic to macrocosmic symbol of scale order (Fletcher 110). The body's mechanics are similar to the atom's energetic ability to transform itself and elements around it, acting as a Body Politic in a system of production whose health depends upon its rates of exchanges and circulation, where the agents themselves become forms of capital, according to Marx's description in *Das Kapital* (Marx "Capital"). The artist confuses the mode of production with the objects produced. The mechanics of the atom and the vortex serve to illustrate the notion that language must be made concrete in bodies in order to do work. As Stephen Barney indicates, the very nature of the things portrayed (*res*) takes the place of other things abstracted, except in this case, the reification affects "the whole operation of a fiction," thereby affecting the nature of the literal things as permanent symbols (34). In order to calculate the effects of such bodies, it is necessary to understand their origins, as aspect atomism explains.

²⁰ Important to the Platonic schema is a development of the perception of Forms through dialectic questioning, a chronicle or accounting of the development of the self (especially the philosophical self) within the marketplace of ideas, the agora (Bakhtin 131). The differences between Pound's manifestos and poems of 1914 and 1915 indicate a change of heart, however; the loss of Gaudier-Brzeska affected him deeply enough to affect the artistic progress of his poetics that his politics eventually alienated him to the point of exhausting his poetic sensibilities.

²¹ This transformation is similar to the metamorphosis myths as found in Hesiod and Ovid. This mythic schema of the "seeker's path" motif contains within it the vital aspects of death and rebirth of the spirit as the seeker of this knowledge passes through "a series of philosophical schools with their various tests, and the marking of this path by temporal divisions determined by their own biographical projects" (Bakhtin 130).

²² The chivalric romantic chronotopical development of the ideal unified self, as used by such writers as Dante, seemed to be idealized by Pound in what Bakhtin refers to as a synthetic encyclopedic "vision" where the entire phenomenal world is revealed to be symbolic in nature (Bakhtin 156).

²³ According to Freud's conception of the dreamwork, sublimation occurs as a reaction of substitution, when desire is unfulfilled. The poet goes through the process of condensing his dreamworks through sublimation, where the poet focuses upon symbolic mental associations by fetishizing the object of desire. The poet substitutes the art object, a substitution and subsequent conversion of repressed feelings. However, as Freud warns,

this “involution” is merely an inversion, a compulsion that usually occurs when the person in question inverts (and thus represses) the desire for a sexual object, whereby the object is internalized in the psyche (320).

²⁴ The syntagmatic dimension of language designates form for meaning (sequence), while its paradigmatic (associative) dimension designates how certain words in syntax have contextually meaningful association with other words as signs of certain ideas; the form of the syntagm concerns combination while the paradigmatic concerns substitution, the gist of language as presence (the syntagm) and absence (the paradigmatic, what is not in the message) (“Syntagmatic/Paradigmatic”).

²⁵ In *The Spirit of Romance*, Pound states, “I believe that Greek myth arose when someone having passed through a delightful psychic experience tried to communicate it to others and found it necessary to screen himself from persecution” (92).

²⁶ Pound would later retain and expand the idea of the *phantastikon* in Canto I of 1917, “emphasizing its world-building power” (Witemeyer 50).

²⁷ According to the *Little Review*’s George Burman Foster, Pound’s tendency toward using “masks” through figures is self-protective: “to ‘myth’ we can add ‘mask’ as armour against a hostile or non-comprehending world,” where myth, mask, and surface act... to hide the poet from harm, surface the “protection of depth,” where “whoever ‘figures each surface’, wears such mask... To wear a mask, to lie, lie, lie - that is the *truth* of the soul as it hides its treasures and its sanctities from vulgarity and volubility” (Foster 36).

²⁸ Pound’s ideas are very similar to the logical atomism of Bernard Russell. Beginning as a series of lectures and culminated in the 1918 publication of “The Philosophy of Logical Atomism,” Russell’s theories attempted to establish a metaphysics which describes the most general and ultimate features of the world, boiling down essential entities. Like Pound’s “inspired mathematics,” Russell’s logical atomism attempts to solve “certain problems with the correspondence theory of truth” in which particular sentences could be described as “atomic,” meaning that it represented an absolute fact (Martin Smith). Russell’s ideas are similar to Pound’s conception of positive and negative valences.

²⁹ As Weininger notes, Archibald Scott Couper, a philosopher of the mid-nineteenth-century, framed his own linguistic structural theory by intertwining linguistic theory with chemical theory: “to reach the structure of words we must go back, seek out the undecomposable elements, vix., the letters, and study carefully their powers

and bearing. Having ascertained these, the composition and structure of every possible word is revealed' ” (Couper qtd. in Weininger 41).

³⁰ Chamberlin notes that Northrop Frye exposes the Paterian notion of the autonomy of art [art-for-art's sake] as containing a self-reflexive language and self-contained logic, all in terms of a “disinterested irrationalism,” which has the “unreasonable power not just to change the way we see the world, but to change the world itself” (Chamberlin, “Mathematics” 234). Chamberlin indicates that Frye's interpretation concerns a kind of impressionism: “Walter Pater's grim description of our ‘whole scope of observation... dwarfed to the narrow chamber of the individual mind... Every one of those impressions is the impression of the individual in his isolation, each mind keeping as a solitary prisoner its own dream of a world’ ” (Frye, *Selected Writings* 59-60, qtd. in “Mathematics” 234).

³¹ As Weininger notes, Heisenberg identified that science arrives at their conclusions of general laws by observation and comparison of particulars, but this process is problematized by the very language used to describe its processes because of the variabilities of language in cultural play; “to carry out this program [of scientific reductionism] requires that the fundamental concepts be defined with maximum precision, a precision beyond the capability of ordinary language” (Weininger 44). Pound saw possibilities in the opposite tactic of literary argument, which starts with general principles and ideas (thesis) and moves toward their proofs by an exposition of particulars (evidence); in poetics, however, unlike polemic argument and theory, such a direct approach is hidden in the valence and nuances of the language used.

³² Geometry is a formal universal, generally contrasted to predicative universals, since formal universals are specifically conventional in nature: within philosophical terms, poetry and all literature is predicative even if general terms are used, because “we cannot think or speak without general terms,...and we are never aware of anything except as having some property or standing in a relation” to particulars” (“Universals”). Thus, it follows that “individual things fall into kinds [categories], the world exhibits recurrences and similarities,” and while “clearly there are general terms and they have meanings,” it does not follow that things exist which are the meanings of all general terms (“Universals”).

³³ Aristotle proposed that nature abhors a vacuum, a principle with which early atomists struggled, and later, disproved.

³⁴ The conditions for material analogy in the conceptual model of Pound's vortex depend upon the poet's reduction of similarities between sets to identities of particular sets

of characters, and where relations within the model itself has acceptable scientific basis for causation (Hesse 86-7). The designation of causes and effects involves dealing with necessary physical relationships between phenomena of real existence. Michel Serres notes that ordering relations according to structure calls for a direction between at least three points, since such a set proves that a process of precession and succession of order exists between these points: “the relation is irreflexive” (Serres, *Hermes* 16), a ratio of relations and their connections. This set is syllogistic in its premises and conclusions. What Pound lays out as a system in *Osirus* is not a chain of cause and effect in poetry, but rather a system of inter-relating powers struggling against each other, similar to the dialectic found in Conrad’s use of irony as dialectic.

³⁵ Frye’s idea of “centripetal character” is very “like Plato’s ultimate act of apprehension somewhere between the mathematical and the mythical” from Plato’s ideas on “real” forms” (*Anatomy of Criticism*, qtd. in Chamberlin “Mathematics” 234).

³⁶ Derrida uses Edmond Ortigue’s *Le discours et le symbole* (1962) to show that “mathematical symbolism is the fruit of secondary elaboration, supposing preliminarily the usage of discourse and the possibility of conceiving explicit conventions [such as the vortex and the atom in “Plotinus]. It is nevertheless true that mathematical algorithm will express the formal laws of symbolization, of syntactic structures, independent of particular means of expression” (171, Derrida 323, fn. 1).

³⁷ According to Shaheen Gandhi and Rahul Jain, “particle physics makes no sense,” since the spin (rotational symmetry) of particles is irregular, and in electromagnetic force, particles and anti-particles annihilate each other, causing chemical reactions as electrons jump their orbits, colliding with others (*Journey into the Atom: Debriefing*). The early Modernists believed in the integrity of atoms as irreducible, perfect entities.

³⁸ According to *Poetry*, Richard Aldington’s magazine of March 1913, Imagisme has the following requirements, most of which were formulated by Pound:

1. Direct treatment of the “thing,” whether subjective or objective.
2. To use absolutely no word that did not contribute to the presentation.
3. As regarding rhythm: to compose in sequence of the musical phrase, not in sequence of a metronome. ...

A Few Don’ts by an Imagiste: Use no superfluous word, no adjective, which does not reveal something. Don’t use such expression as “dim lands of *peace*.” It dulls the image. It mixes an abstraction with the concrete. It comes from the writer’s not realizing that the natural object is always the

adequate symbol. Go in fear of abstractions...Use either no ornament or good ornament. Don't be "viewy... . Don't be descriptive; remember that the painter can describe a landscape much better than you can, and that he has to know a deal more about it. Consider the way of the scientists rather than the way of an advertising agent for a new soap. (199)

These doctrines contain other "don'ts," but these seem to be the important ones for consideration of the problems with the vortex as model.

³⁹ "[In the 1950s] we cannot rightly say whether valence is actually a force, an electronic orbit, an indentation in the charge density of the atom or the mere possibility of something of the sort," and R.G. Wooley called it " *a powerful and illuminating metaphor*," meaning that this abstract notion should never be confused with real things (qtd. in Weininger 43-44).

⁴⁰ The problem of the early twentieth-century was in connecting form with function, and for the atom, that meant connecting its atomic energy to its form through an analysis of its weight, which generates the properties of each element, thereby symbolized in an atomic number (Bronowski, *Ascent* 330). The "state" of being of a thing is dependent upon this weight calculated through the number of protons, electrons and neutrons of atoms; weight and the tendency of bonding of the atom with other atoms through photon emission determines molecular makeup, the state of "becoming." In *Osirus*, Pound uses the valences of - and + to illustrate the tension of the potential energy of poetry.

⁴¹ Martin Kayman notes that "Thus it is that one finds Heraclitus' axiom often quoted as the centre of science, replacing the prime term of matter with that of energy" (Kayman 86). As Kayman points out, "there were scientific circles where the threat to mechanism did not necessarily bring a common consternation. ...In these circles the language of energetics was extended beyond what was newly constituting science, in order to claim the new area in advance for science" (86).

⁴² Ira Livingston discusses one such "panopticon" as linked to the "exemplary irrational" and the transcendental number of π , discussing its configuration as a cellular, circular, and functioning as the "enlightening" "yin-yang" machine of the Romanticist movement. This configuration functions to establish the center of literature as a discipline, as well as employing a form which would mirror the content of poetic works, especially what Livingston refers to as the "panoptic" function of metaphor (23). He notes that symbolism possesses this kind of self-referentiality of dialectic, between "mystified participation" in the world and "demystified withdrawal" of the artist (24). The

panopticon “performs a disciplinary function by becoming a metaphor,” that is, a metaphor of metaphor (25). He connects this function to the physics of “whirling regulators,” and despite his own study of Yeats in the same book, fails to connect it with Yeats’ Great Wheel, thereby failing to connect it to Pound’s work, even though he mentions Pound later in this book, in regard to Pound’s own “chaotic” configurations. He mentions Pound only as a throwback to Romanticist metaphysics.

43 As Ian Bell relates, Luc Ferry demonstrates that “the principal effect of the Fourth Dimension and non-Euclidean geometries on artists belonged to the effort to ‘put an end to perspective’ in order to return, in practice, to an art of two dimensions” (“Modernist Spirals” 36), in effect a reduction to squares.

44 Langdon’s vortograph appears in my chapter on crystals.

45 As Bakhtin indicates, the attempt to locate narrative time as a universal utopian ideal of a working model indicates a chronotope in use, a narrative in which time is collective and reflects “a progression of events in [which] an individual life has not yet been isolated...[and] the *individuum* lives completely on the surface, within a collective whole...[where] both labor and the consuming of things are collective” (206-7). For more on types of Chronotopes, see Mikhail Bakhtin’s *The Dialogic Imagination*. Particularly for the case of Pound and the Vorticists, this effort is indicated in their collective commune of artists of different disciplines.

46 According to Ronald Bush, the meeting between Mary Fenollosa and Pound had rather different sides in the telling of how he came to translate Fenollosa’s notes. “He story was that Pound, infatuated with China, pursued her at a literary gathering; his that she had read his work and recognized ‘the interpreter whom her husband would have wished’” (Bush 37). Bush reveals that Pound’s translations read more like turn-of-the-century romanticism than Chinese Haiku and odes (37).

47 I can see these “correspondences” from Swedenborg in Emerson’s “Nature,” “Circles,” “Self-Reliance,” and “The Over-Soul.”

48 Lewis’ chemistry as metaphor, as well as Pound’s atom, is very similar to D.H. Lawrence’s conception of “allotropic states,” extrapolating from Marinetti’s chemical tropes to explain the “metaphorical chemistry of character--the ‘elementality’ of the ‘other ego’,” the ego beyond the stable ego of Freud’s conception, which undergoes a change to a deeper sense of the self (Clarke *Dora Marsden* 153). Lawrence was reacting to what he considered to be the conventional “love” of women as a form of social programming, a problem with which the character of Birkin struggles in his relationship with Ursula

Brangwen in *Women in Love*. Pound's sense of this state was not directed in upon his individual ego so much as how love enhanced his artistic sensibility to create. Both theories, however, are atomistic, because they focus upon individual subjectivity, and they both use chemical tropes to describe these states of thought.

⁴⁹ As theorists like Boyle and Newton "solved the problem of the genesis of law, order, and beauty in the world-machine by drawing, as it were, a *deus ex machina*" by focusing on God as the clockwork progenitor of the mechanical universe (Abrams 164), many artists found the need to explain the local causes and effects of human suffering through the psychology influenced by a mechanical cosmology, a clock-work universe, further reinforced by scientific argument concerning the association of ideas and controlling design. "[Events or actions in narratives] must be related to each other in the imagination, and form a kind of *Unity*, which may bring them under one plan or view, and which may be the object or end of the writer in his first undertaking" (Abrams 164-5).

⁵⁰ The *Bildungsroman* was the German novel of "coming-of-age," a theme used often by Thomas Mann, in novels such as *Tonio Kröger* and *Buddenbrooks*, also similar to James Joyce's *The Portrait of an Artist as a Young Man*. These works in particular chronicle the coming-of-age of the artistic consciousness.

⁵¹ Kandinsky's Expressionistic theories were primary to vorticism and its aims:

How far is the inner Timbre of the given object mystified or defined?
This alteration in one's point of view will always progress and lead to a still greater enrichment of one's means of expression, since mystery is an enormous force in art. The combination of the mysterious and the definite will create a new possibility of Leitmotiv in a composition of forms.

Composition of this kind (the corporeal and particularly the abstract) will always appear as unfounded arbitrariness to those who do not perceive the inner Timbre of forms. ...

The flexibility of the single form, then its inner organic change...; its direction in the picture (movement), the preponderance of the corporeal over the abstract in this single form on the one hand, and on the other the combination of the forms which create the big shape of the whole picture: further, the principles of concord and discord in all the aforesaid parts, ie., the juxtaposition of the single forms, the interpenetration of one form with another, the distortion, the binding and

tearing apart of the individual forms, the same treatment of the groups of forms, of the combination of the mysterious with the definite, the rhythmic with the non-rhythmic on the same plane, the abstract forms with the purely geometrical (simple or complicated) and the less definitely geometrical, the same treatment of the combination of the boundary lines of the forms from one another (heavy or light...--all these are the elements which create the possibility for a purely aesthetic counterpoint and which will lead to this counterpoint. (Kandinsky *Blast!* 1 124)

⁵² New interpretations of thermodynamic and electromagnetic theories by Sadi Carnot, William Thomson (Lord Kelvin), James Clerk Maxwell arose; their theories would be resituated within the residually mystical and occult theories of Allen Upward, G.S. Mead, and Henri Bergson. Dasenbrock and Thomas Jackson both agree upon Bergson's influence on Pound. As Jackson notes, "for Pound, ...the shape of an idea depends on the modality of the mind receiving it," noting also that Bergson and Pound both see the dynamics as a procession of moments (111).

⁵³ As Pound would go on to claim in 1918's *Memoir of Gaudier-Brzeska*,

"Nature contains the elements." ...One is not forbidden any element, any key because it is geological rather than vegetable, or because it belongs to the realm of magnetic currents or to the binding properties of steel girders and not to the flopping of grass or the contours of the parochial churchyard. "The artist is born to pick and choose, and *group with science*, these elements, that the result may be beautiful...." ...One uses form as a musician uses sound...into "planes in relation." (125)

Pound explains that the concept arises into form from what seems to be nothing (152).

⁵⁴ Bergson notes that the disposition of germinal growth, "transmitted from germ to germ," but he also notes that this is different from a transference from individual to individual, since the first action is an act of instinct, while the latter is an act of intelligence (*Creative Evolution* 185, 187). Latency is a sexual metaphor for potential sexual energy, the monadic, spermatic "seed" of thought to be planted in the field of culture by the loving artist. This is potential rather than kinetic energy in the vortex. The "seed" of inspiration grows only under the right conditions, much like Jesus' parable on the spiritual "growth" of Christians: the "seed" must be planted in the right kind of "soil" in order to spring from latency to germinal growth, tended with meticulous care so that the "seed" does not die.

⁵⁵ Bergson refers to this level of consciousness as the instinctual level of

germination (*Creative Evolution* 185).

⁵⁶ The distinction between the “natural” and the artificial was one of the differences between Futurist and Expressionist art production. The Vorticist movement of 1914-15 was a reaction to futurism and impressionism, but it also borrowed a great deal from those movements. Both movements emphasized mechanism, but while the Futurists preferred the artificial velocity and movement of machines, the Expressionists saw machines as signs of devolution.

⁵⁷ Breaking down reality was a major aspect of Impressionist technique, and thus, an influence upon the literary artists of *fin de siècle* culture. Peter Stowell indicates that the Impressionists used their pointillistic artistic technique to portray “the atomization of a subjectively perceived reality, the acceptance of chance in a world so complex and unknowable as to render causality impotent,” and that the flow of individual human duration merges “with the quanta-like moments of phenomenological time” (15). As Cheney offers, the Modernists in particular sought to explain movement through “the analogies of modern physics: polarity, tensions, orbital pulls, and other manifestations of astro- and atomic dynamics” even as they sought for the purity of form (129).

⁵⁸ In “The Tomb at Akr Caar,” Nikoptis longs to re-occupy his dead body, yet cannot; his spirit continues to hang around his tomb, much like artistic intention continues to hang around the dead artifact of the word. This poem, like “Before Sleep” of 1914’s *Blast!*, vaguely implies the mythology of Thoth in Plato’s *Phaedrus*: Thoth’s invention of writing becomes a poison, a *pharmakon*, “deadening rather than spurring the memory, reducing living, inner wisdom to dead, outer simulacra (§274e-75b, qtd. in Clarke 3). Clarke notes that Derrida exposed the Thoth figure as daemonic, underscoring the “metamorphic nature of writing,” a “figure for the filial, secondary, anti-authoritative or subversive position of writing in relation to the primary paternity of the spoken logos,” writing as daemonic, personified in metamorphic characters (*Allegories* 5).

⁵⁹ For the Expressionists, the animal was the “symbol and embodiment of the ‘pure ideas forming the basis of the construction of the world’,” and yet, this structure “represented only an intermediate stage before reaching the dematerialized and abstract representation where there are echoes of Albert Einstein’s theory of relativity, Max Planck’s quantum theory, Wilhelm Ostwald’s theories on energy, and Niels Bohr’s model of the atom;” by attempting to capture “the passage through things,” Expressionists like Kandinsky and Marc sought spiritual identity: “Kandinsky’s Romanticism was... rooted in Russian mysticism and in the anthroposophy and theosophy of Helena Blavatsky and Rudolf Steiner,” resulting in the generation of his ideal of the “inner necessity,” where “a cosmos of beings...act on a spiritual level. Even dead matter is living spirit” (März 65-6).

This “inner necessity” had an ambivalent nature of spiritual asceticism and vital intensity, which was also a goal of the *Gesamtkunstwerk* (the total work of art, or as Wagner himself termed it, *Gesamtvolkskunst*, the “work of an entire people”) advocated by Richard Wagner and Runge (*Tagezeiten, Moments of the Day*).

By 1901, the Expressionists, before Marinetti’s Futurists, turned not to progress and technology, as the Futurists would, but to organic means of revealing the hidden nature of mankind, protesting the mechanization of society and world through bourgeois values by returning to the cults of beauty and nature advocated by Jean-Jacques Rousseau and the Romantics, using vivid colors and bold lines to develop a structure that could capture both the apocalyptic spirit of vitality for protest against corrupt values, yet also recapture the innocence of pastoral harmony. Thus, the organic nature of atomic growth, especially within the cells of the human body, became symbols for artistic growth. The Expressionists reacted against the artificiality of the inorganic machinery of Futurist worship, with their emphasis upon speed, efficiency, and the *energy* produced by work.

⁶⁰ Psalms 102, lines 25-27 confirms the idea of a centrally motivated creation:

25. Of old hast thou laid the foundation of the earth: and the heavens are the work of thy hands.

26. They shall perish, but thou shalt endure: yea, all of them shall wax old like a garment; as a vesture shalt thou change them, and they shall be changed.

27. But thou art the same, and thy years shall have no end. (Smith 111)

⁶¹ In a letter to William Carlos Williams, Pound makes reference to Ecclesiastes (Jackson 102). Robert Casillo confirms the influence of the Bible, adding that Pound, a lapsed Protestant, may have identified with the Book of Ezra in the Old Testament during his early childhood. “In short, the young Protestant Ezra Pound once thought consciously of himself as being like the prophet whose name he bore” (300). While Casillo uses Freud’s *Totem and Taboo* to demonstrate how Pound *may* have found a literal association between his name and that Ezra of the Old Testament, that he may have thought himself a “recipient of ‘the Mandate of heaven’ ” (qtd. in Casillo 300), I found Casillo’s claim to be more speculative than substantiated by the evidence of Pound’s letters. From the biographical information I researched, I *did* find evidence that Pound thought of the function of the artist as divinely inspired, though. However, as far as being a prophet, Pound seems to stop short of that claim, as far as I can tell.

⁶² In *Homage to Sextus Propertius* (1918-19), Pound infuses meaning into form: “such aspect was presented to me, me recently/ emerged from my visions,/ You will

observe that pure form has its value” (*Selected Poems* 92). As Propertius had been warned in VII, “turn not Venus into a blinded motion” and that while “eyes are the guides of love,” their senses are purely external (*Selected Poems* 88). Bell notes that Pound’s fascination with the pineal gland as “the site of original image-making” and as the “gland of ‘lucidity’, of the sense of light analogous to the eye” had its basis in Gourmont’s “chemistry” of sexual attraction or repulsion as an energy form (*Critic as Scientist* 217-18). The poet has made the mistake of seeing the image as indicative of a particular meaning. Peter Nicholls identifies this economy as the Desire according to the Other, a model which functions to reinforce individuality through an assertion of difference between acting agent as subject and dominated, subjected object as victim of objectification, a transition to modernity which René Girard identifies as “ ‘the shift from ‘external’ to ‘internal’ mediation: where, under the *ancien régime*, the model to be copied had been transcendent to the subject (‘beyond the universe of the hero’)... [where] the model becomes increasingly like the subject’ ” (qtd. in Nicholls 14). Froula notes that Pound’s use of the “subject rhyme” maintains this emphasis upon the subject as re-iteration of themes. As I maintain, the use of concrete models gives this subject a shape. As Pound relates in his essay on Guido Cavalcanti, the medieval poets were able to portray “the god is inside the stone [where]...the force is arrested...the shape occurs” (*Literary Essays* 152).

⁶³ Many people of the Modernist era were confused about the era’s new advances in knowledge, and their confusion was often derivative of the confusion among scientists themselves, between the Newtonian tendency to separate mechanical and biological principles, and the biologists’ and chemists’ arguments that life began from the physical matrices in which they were found. As Toulmin indicates, advances in chemistry demonstrated the integrity of the atom as the source of growth and transformation (322-330). As biologists began to use finer optics to study cells, they noticed that organic cell formation began from molecular combination into spherical forms. Theodor Schwann formulated two groups of questions, one concerning “the processes by which cells were originally created,” for which he coined the phrase “plastic” phenomena, and “the other with the chemical processes within and around the cells, by which the life of the organism was maintained” (coined “metabolic” phenomena) (Toulmin 349). Furthermore, “Schwann pursued to great lengths the analogy between cell-formation and *crystallization* (Toulmin 350). Therefore, the links between atomism and crystallization were established within these early nineteenth-century efforts to find the sources of cell animation.

⁶⁴ According to Bell, condensation occurs in Pound’s works as a result of his need to solidify value in his poetic objects (I Bell, *Critic as Scientist* 209).

⁶⁵ The words “vortex” and “vortexuality” were coined by Charles D. Minahan in

Vortex/t: The Poetics of Turbulence, which concerns strictly mimetic, canonical texts that use vortex imagery as symbols for universal schemas, like Dante's helical universe in *La Divina Commedia*. Minahen explains the differences between the physical forms of spirals, gyres, helices, and vortices, but his explanations stay within a very small range of context of meaning, without venturing into the complexities of poetic form as heuristic, as Pound was attempting to do with his vortex theory.

⁶⁶ Kayman confirms Yeats' influence upon Pound, stating that Yeats' involvement with the Society for Psychical Research, originally formed in 1882, the agenda of which included "the scientificity of psychical research as a practice; the epistemological synthesis of 'mind and matter' in energy; and the scientific existence of psychical phenomena" (89), all of which used the vocabulary of science to authorize it as a practice. As Kayman notes, Pound's beliefs were "his own, and ideas like 'delightful psychic experience' or 'the radiant world' require no derivation," since "what distinguishes Pound's... 'mysticism' from that of the Symbolist aesthetic with which he was in contact through Yeats, and against which he rebelled, is the coherent scientific model and vocabulary," which is "only adequate as a scientific form within the paradigm which finds its *precedent* in the Society for Psychical Research" (95).

⁶⁷ Pound's fiction of origins really has nothing to do with the SPR itself, but rather with his desire for finding the source of energy for the artist and how it is distributed, of finding a language in which he could couch his abstractions.

⁶⁸ Pound was influenced in this belief by G.R.S. Mead's theosophical ties with Madame Blavatsky's Theosophical Society and Mead's essay "The Quest'--Old and New: Retrospect and Prospect," which proposes that the esoteric sense is only understood by a few "enlightened" souls "'dowsed' in the Divine Monad, that is [having] undergone a palingenetic initiation feebly reflected in Christian baptism" (Surette 105-6).

⁶⁹ According to Harmon, "Pound insistently attacks time as the lethal medium of decay, mechanization, and mortality. Against these deadly effects, he advances principles of timeless stability and organic order" (Harmon flyleaf).

⁷⁰ John Fowles' idea on this "folding over" of the time line is very similar to Castriano's and Hayes' ideas on the "folding over" of "germs" that I illustrated with the time line of *The Secret Agent*:

The whole is not a chain, but a spinning top. ...The weight of the top must be distributed evenly about its central axis, or the top will wilt and wobble. ...Those attempts to make us put the great weight and energy of our beliefs

and hopes in some other world (heavenly or utopian) are like the erratic movements of weight inside the top. We disperse our powers centrifugally. The real meaning of life is close around the axis of each now.
(qtd. in Higdon 114)

⁷¹ Fowles refers to that “‘great human illusion about time, which is that reality is like that of a road--on which one can constantly see where one was and where one probably will be--instead of the truth: that time is a room, a now so close to us that we regularly fail to see it’,” as Fowles reminds his audience (qtd. in Higdon 114).

⁷² Pound possibly saw that “the ‘repeat in history’ enacted in [the Cantos] requires some metahistorical apparatus if it is to have any meaning at all,” since for him, “history is *real*...and is irreversible, but not irredeemable” (Surette 163), as Pound’s subject rhyme constantly reiterates through his clever ironical use of mythology to portray situations in his own time. Pound claims in “Raphaelite Latin,” “the *Zeitgeist* spoke in the ‘I go to wake the dead’ of Cyriac of Ancora, scholar of things old; and when Janus of Axel had forestalled and superseded the science of pedagogy with ‘I instruct not; I awake’” (34), “words [which] might have served as an epigram for *I Gather the Limbs of Osirus*” (Longenbach 51).

⁷³ The suspension of time from his own identification processes in his poems attempts to defy environmental cultural processing of the individual consciousness, a sad fact for Pound, as “history was not redeemed by the Axis powers...dreamed it could be” (Surette 163).

⁷⁴ Metahistoricity, taken in hand with metaphysics, may attempt too much, but this attempt may well be in line with the Wagnerian ideal of the *Gesamtkunstwerk*, an ideal which Pound may have picked up from the occultist interests of Yeats, whose *Weltanschauung* included a mix of Nietzschean and Wagnerian theories on occult allegoresis of mythological figuration; Surette suggests that while some critics maintain that the line from Wagner and Nietzsche to Pound can be drawn through the French *Symbolisme*, he sees Pound’s view of history as the occult influences of Yeats (169-70). I will not go into a detailed account of the Nietzschean or Wagnerian influences in this document, but Surette suggests that there is no doubt that Pound shared some of Nietzsche’s views, as did Yeats in “The Second Coming,” the truest contextual reference to what Yeats referred to as a “gyre,” similar to the vortex, if ever there has been one, in the English language. “Things fall apart; the centre cannot hold” (qtd. in Surette 170).

⁷⁵ As Mikhail Bakhtin demonstrates, Dante’s technique itself exposes “the extraordinary tension that pervades all of Dante’s world...the result of a struggle between

living historical time and the extratemporal other-worldly ideal” (Bakhtin 158). Bakhtin’s criticism here of Dante is remarkably similar to Pound’s attempt at a geometrical poetics. Dante’s “stretching-out of the world--a historical world, in essence--along a vertical axis,” thus “structures a picture of the world remarkable for its architectonics...below, a crude materiality of people and things; ... where “the temporal logic of this vertical world consists in the sheer simultaneity of all that occurs (or “the coexistence of everything in eternity”)” (Bakhtin 156). As Bakhtin calculates, the arrow of time that divides past from present must be ignored so that “everything must be perceived as being within *a single time*, that is, in the synchrony of a single moment...to ‘synchronize diachrony,’ to replace all temporal and historical divisions and linkages with purely interpretive, extratemporal and hierarchicized ones--such was Dante’s form-generating impulse, which is defined by an image of the world structured according to a pure verticality” (Bakhtin 157).

⁷⁶ Pound’s makes a distinction between the archeological and artistic past in *The Spirit of Romance*, revealing his conflict between his adherence to the German conceptions of spiritual awareness (*Geist*) of the poet and his war with German academic philology and its methods, which “did not leave room for consideration of the subject matter of Latin Literature--much less ‘the beauty of the classics’ (Longenbach 51), methods that were distinctly positivistic, scientific in their approach to dissecting literary works along a strictly “historical” line of analysis, a scope that is very intensified and specific, but also tainted in terms of a specifically German political point-of-view. This view of history, seen within the milieu of a German Expressionist distortion, is evident within the hyper-concise form that results in Pound’s composition methods, particularly during his Imagist period, and ironically, less so during and after the Vorticism era.

⁷⁷ The turbine can be of the impulse variety (where direct action of pressure generates the force in the turbine, as in a pinwheel) or of the reaction variety (where the rotation action is effected axial entrance of the water pressure, where the water is subsequently discharged through the buckets tangentially, as in a steam or gas turbine, or in the nuclear reactor) (“Turbine”). According to Kenneth Wark, turbines are usually employed for different types of work, determining the type of turbine used: pumps are usually used for liquids, while fans are used for gases (188).

⁷⁸ In 1842, James Thomson’s instrumental studies on the motive power of heat recovered Sadi Carnot’s theory of the work of engines, particularly A.J. Morin’s dynamometer, which he converted into a turbine engine, putting into practice the idea of the German *mechanische Wirkung* (Smith 39-40). Carnot’s horizontal waterwheel used water as its motive power, which “moved inwards from the circumference rather than outwards from the axis, and hence became known as the vortex turbine on account of its similarity to a natural vortex” (Smith 44). By 1861, James Clerk Maxwell took

Thomson's theories and made models of the vortical motion within electrical currents more comprehensively illustrated this motion than ones like Dr. Edward Babbitt's model of the vortical power of the single atom (Smith 223, 226; Hall 13).

⁷⁹ Bronowski agrees with Smith, noting that the initial problem in Rutherford's model of the atom was the same: "if the atom is really a little machine, how can its structure account for the fact that it does not run down--that it is a little perpetual motion machine...?" (*Ascent* 334).

⁸⁰ As Martin Rosenberg indicates, the Othering that occurs as sublimated energy/desire for the individual subject (Pound) becomes re-modulated into an acceptable form, poetic form, transforms the subject and his culture by reifying the individual as a universal character, a synecdoche, representative of the modulation of desire for "the dynamic control of entropic forces throughout culture as a whole" ("Dynamic" 9). The binary oppositions between displacement/alienation/Othering and condensation/crystallization/unity forms the paradox between being and non-existence in sign of the persona, where presence and disappearance occurs within language itself, and transformation/becoming/metamorphosis and stasis/repetition/being.

⁸¹ In addition, this idea of the dialectic works well with Michel Serres' notion of the world as a chemical machine, where centers and centrality (the center of the vortex, in Pound's case) defined by geometric and differential properties "are the poles of the circulation of movements in general," the pressures of which are moved by the positive and negative poles of "electric" (vital) circulation of the whole vortextual system (*Hermes* 35), consistent with Capra's explanations of Niels Bohr's notion of complementarity of polarizations (79).

⁸² This notion on the atomic level, according to Prigogine, is what Lucretius refers to as the *clinamen*, where disturbed atoms, in a bifurcated course, gives rise to a vortex, which "gives rise to the world, to all natural things" (141), the process of becoming in metamorphosis that Pound both claims as process and laments in poems like "Before Sleep," 1920's *Mauberry*, Canto 16 and Canto 74.

⁸³ According to Richard Bube, electric or magnetic fields within crystals occur within wave *packets* of electrons (211), where excitation or relaxation of ions occurs. Chemical transformations occur when an atom interacts in this way with another atom to form molecules or else degrade.

⁸⁴ I find this particular aspect of Pound's writing immensely exciting, because he intuited the imaging power of words, much as Mina Loy did when she described Gertrude

Stein. I feel that Pound was attempting to do the same thing that Loy describes in Stein's method in this short poem.

GERTRUDE STEIN

Curie
 in the laboratory
 of vocabulary
 she crushed
 the tonnage
 of consciousness
 congealed to phrases
 to extract
 a radium of the word. (Loy 26)

As Loy illustrates, the "radium of the word" that she describes in this poem refers to much the same thing Pound describes with his poetic economics: form that emanates the power to change things through some magical discursive influence, a language of energetics in the trope of radiation very similar to the kind of electromagnetic energy Pound describes with his Rose in the Steel Dust metaphor.

⁸⁵ C.J. Adkins defines a black body as a body which "absorbs all radiation of all wavelengths which fall on it" (95). Where all bodies in equilibrium in equal temperature enclosures "must radiate as much energy at each wavelength" as they absorb "(to preserve the nature of the radiation)," "black bodies absorb all incident energy," so that all radiation escaping appears to be perfectly black (Adkins 95). Black holes, which are the result of imploded stars, are examples of such black bodies. Black bodies are perfect absorbers and emitters of energy.

⁸⁶ These "reflections" correspond to what M.H. Abrams states was David Hartley's interpretation of "vibrations" as a mechanical theory of literary invention taken from David Hume's empirical psychology, which "reflects faithful images of the objects formerly perceived...a mere copier" (Abrams 160). That is why Abrams's book is entitled *The Mirror and the Lamp*.

⁸⁷ Bacigalupo's *The Formed Trace: The Later Poetry of Ezra Pound*, page 78, outlines the fourth dimension as Pound mentions it in his works of the late 1930s and early 1940's; Ian Bell notes the oddity of this invocation, considering how the fourth dimension had long been discarded as a metaphor for the obliquity of procedure in most circles of criticism and creative writing (I Bell, "Modernist Spirals" 3), which I might consider as the

obliquity of acts of becoming.

⁸⁸ Ian Bell points out that the vision of Pound's vortex is a conundrum for Pound, a world where, as Claude Bragdon would point out in his 1916 *Four-Dimensional Vistas*, "our three-dimensional world is *superficial* - the surface, that is, of a four-dimensional universe" (Bragdon 46).

⁸⁹ Claude Bragdon outlines such dimensionality as "room to think, to feel, to strike out in unimaginable directions, to overtake felicities and knowledges unguessed by experience and preposterous to common sense. ...When we speak of the fourth dimension, what we mean is the fourth stage in the apprehension of that infinity" (Bragdon 22-23).

⁹⁰ The Tao of this "interpenetration" of consciousness derives from Pound's conceptions of the Noh central image of the Japanese Noh plays, in two major forms: *mugen-noh* the Noh of spirits, which "requires what Komparu terms 'the reflection-in-vision method (*mugen-kaiso-ho*), in which the flow of time within the play is reversed and takes place in a memory or dream'," thereby producing a ritual, perhaps even diagrammatic, structure (Nicholls 176).

⁹¹ While Dasenbrock recognized that Pound's fourth-dimensional process is reduced into a two-dimensional diagram (73), what he does not really seem to recognize is that the "dimensionality" of Pound's vortex is exponential; it can bend and fold into as many or as few dimensions as one chooses to superimpose upon its structure, representing the potential "folding" that occurs in viewing the image, and interpreting it.

⁹² The diamond is the most valued of crystals, a crystalline allotrope of carbon, but it is also the figure on playing cards, the rhomboid lozenge-shaped figure, usually symbolic of monetary value. The complex polytropical diamond would be one of surpassing value, clarity, economy, and durability, especially since the diamond is the world's hardest substance, as well as one of the most beautiful gems in the world. It would be interesting to follow up on a study of the diamond as a figure within D.H. Lawrence's allotropic states. The passage of chemical transformation for carbon is the essential element for all organic things, so that the difference between diamond and graphite is a matter of atomic formation, a process that is mirrored in the "crystal" fluid state of water.

⁹³ Yeats' "The Rose of the World" was written in 1892, prior to his Irish nationalist period, where he concentrated on Irish mythic themes more than popular ones. More, significantly, Plato's eternal rose was a centerpiece image in Dante's *Paradiso*,

where the white rose is the simile for the Virgin Mary and her attendant maidens, Beatrice among them on the third tier of Mary's throne. William Blake engraved this scene of the Queen of Heaven in Glory as a hierarchically-shaped rose, her "petals" the corresponding souls in heaven closest to her, which would correspond to Pound's own image of the crystal, the hypercubed polytope of exponential hierarchy.

⁹⁴ According to Ira Livingston's thermodynamic reading of Yeats' gyre as it is presented in "The Second Coming," the gyre "does not merely propose as unidirectional movement toward entropic heat death, but a reorganization, a transition," since "the widening gyre is, after all, only of the picture of interpenetrating spirals that made up Yeats's figure of cyclical history: the Yeatsian universe does not simply explode outward toward heat death from an originary big bang but is 'a great egg that turns inside-out perpetually without ever breaking its shell'" (Yeats qtd. in Livingston 62), the Orphic Egg. According to Livingston, this entropic scenario in which history plays itself out in Yeats' figure of the gyre as the self-organizing tendency of things falling apart and reorganizing, for "like the classical image of the charioteer losing control of his horses [in Plato's *Phaedrus* and the kabbala of the Tarot], Yeats's falcon escaping the falconer's control works as an allegory of the disjunction of mind and body, human and animal, spirit and matter...as well as an allegory of allegory, of the loss of referentiality in the disjunction of signifier and signified" (Livingston 63). The trace left behind by the allegory of allegories in Pound's vision of the phase space of history demonstrates itself within the recurrences, the reiterations, of literary patterns that emerge as fragments of a collage of history that reweaves itself into a montage of the poet's vision, the rough beast of Yeats' conception that is the chimerical monster of discourse, "always falling apart and together, always rough and slouching" (Livingston 66), always the arch-trace that is ultimately allegorical in scope. The crystal refracts this history through its mirror-like planes through which its "atomic" energy can travel.

⁹⁵ According to Robbin, "recognizable parts of a quasicrystal do repeat, but not in a regular way," and "quasicrystals frustrate our common pattern-recognition systems, but we intuit that there is some kind of structure and pattern really there...as a geometry of flux, rich ambiguity, and subtle order, quasicrystals seem elegantly to express our modern experience of space" (Robbin 80). The quasicrystal can be seen as a reflective fourth-dimensional closed system, for it contains a whole different class of patterns from a third-dimensional crystal. They are non-repeating patterns that are paradoxically iterative without being exactly repetitive; in this effect, a quasicrystal is stacked over and over again, and *seems* like a pattern, but it is only that recognizable parts of the crystal are repeating, just not in regular ways (Robbin 79-80). Such symmetry is chaotic, and according to Katherine Hayles, is what she refers to as a feedback loop in which information is simultaneously exchanged between theory, technology, and culture, and this

feedback loop *is* Pound's vortex of paradigms, a typical feature of complex systems whereby output information "feeds back into the system as input" (*Chaos Bound* 14), but which is never repeated exactly as before.

In fact, Hayles identifies Christine Froula (a Pound critic, as well as a deconstructionist) as pioneering in her efforts to compare deconstruction with quantum mechanics (*Chaos Bound* 17). The important thing about the discovery of hypercubing for this study is that it demonstrates a way of imaging Pound's vortex as a quasicrystal, a simile for transformative changes in art, as well as using this figure to reorient his readers with the concept of metanarrative reification of literary critical theory *within* the structure of poems. As Ian Bell notes, "laws of repetition offered clear cyphers for the patterns of correspondence that sealed the harmony of the transcendentalist world at the level of theory;" however, "at the level of practice, this results in an absence of full discourse on the grounds that such fullness is implicitly ever present and can therefore be suggested" (*CS* 239). Pound's technique is a visual one that extends to the use of the crystal as such a "molecular" network, but one which is an analogy for the simultaneity of the external nature of experience and the internal nature of memory, a space that internalizes the external by a mysterious, even occult, process still unknown to science.

⁹⁶ Sheldon Cheney states that the Expressionist creed sees "the work of art [as] ...a crystallization of understanding...its vitality...in the livingness of the movement-summary [of plastic artistic awareness]" (Cheney 129).

⁹⁷ Clairvoyants of the metaphysical trade used the crystal ball as their medium for the perfect resonator of spiritual energy, and crystals are still widely sought after for metaphysical "healing" and mediation of spiritual energy, which according to Manley Hall is a misuse of the pure symbolism of the crystal: Crystals like diamonds, sapphires, rubies, etc., have long been held in high value due to their beauty and market value, but for metaphysicals to endow them with such power is akin to sorcery, according to ancient wisdom (Hall 100). According to Mike Howard, a scientific crystallographer, the "holy grail" of crystals would be the perfectly spherical crystal, since it would be one of perfectly centralized structure, with completely equal axial angularity of form. The vortex "cone" that Pound describes would be one having an irregular shape in comparison, but which be a manifestation of the crystallization process itself when matter changes directly from liquid or gas to a solid state ("Introduction").

⁹⁸ Expressionism sought unification within society and art, in response to the alienation of urban life and the turbulence of society through a return to a utopian cult of nature (*Naturutopien*), and an art that could spring to life, and crystals, as metaphor for structure, offered an unification of both form and reaction. Finally, the Expressionists

began to yearn for solidity, the serenity of clarity, purity, and beauty, leaving off the duality of chaos and fragmentariness for unity (Vergo 12-13). Their answer came in the form of crystals, the artistic soul as the magical alchemical energizers of the vortex, especially by 1912 with the introduction of the *Blaue Reiter* group of artists.

⁹⁹ Pound notes Gourmont's metaphor for such reiterations as "the shells of thought," where artists use "the thoughts that have been already thought out by others" (*A Memoir of Gaudier-Brzeska* 87).

¹⁰⁰ The crystal with its atomic lattice as structure, promised some kind of stability within its fields of vertical energies, in a world where such stability was rare, as Expressionists like Paul Klee revealed, expressing his dismay over the carnage of World War I (März 66). After the loss of Gaudier-Brzeska, as well as so many other artists in the Great War, Pound appeared to crave stability of some kind, even if it was only in his mind. The crystal stood for both artist and art object for the Expressionists like Paul Klee, remorseful of the chaos of war and conflict (März 66). The "systems" of order would necessarily be the nations involved in the political state of Europe during and after World War I, which deeply affected Pound as a sense of loss due to ineffectual systems of order, and realism, where he sensed a continuous rehash of the same dead images and ideals, all of which perpetuate the existing orders.

¹⁰¹ The Expressionists' choice of the crystal as a symbol for atomic purity was a reference to the power of the artist, marking the desire for stability, but ends by becoming an appeal for death. As Pound's mix of Troubadour and Medieval poetry illustrates, the strife produced by both love and war almost always end with death. The end of conflict through atomic crystallization became the quintessential structure of the Expressionist's Romantic utopian ideal, equating the crystal as a "symbol of new faith," especially by 1912 with the introduction of the *Blaue Reiter* group of artists, the fascination with reflection and prismatic crystallized nature: "what one sees must be inwardly remolded and crystallized" (März 67). Expressionism sought unification within society and art, in response to the alienation of urban life and the turbulence of society through a return to a utopian cult of nature (*Naturutopien*), and an art that could spring to life, and crystals, as metaphor for structure, offered an unification of both form and reaction. Klee bemoaned not only the war and the nationalism that led to it, but the impersonal artificiality of the "impure" crystallization's offered by the Cubists, whose dimensional analysis seemed alienated completely from human warmth, as well as the mechanically furious idolatry of the Futurists, where mechanism, again, seemed alien to human subject matter, objective to the point of strangulation of human vitality, the extremes of which are posed in characters such as the professor in *The Secret Agent*. Paul Klee remorsefully notes:

This earthly sphere is abandoned, and instead, one goes beyond to build, in an ultramundane region: abstraction. The cold Romanticism of this style without pathos is incredible...A Landslide of artificial elements for the formation of impure crystals. ...[In World War I] I thought I'd die, war and death. But can I die, I who am a crystal? (März 66)

After the loss of Gaudier-Brzeska, as well as so many others, in the Great War, Pound appeared to crave stability of some kind, even if it was only in his mind.

¹⁰² Pound does not mix metaphors of atoms with crystals, but he *does* mix the metaphor of the atom with that of the vortex because the vortex is the result of the atom's motion; the level of experience differentiates Pound's use of these metaphors.

¹⁰³ Not only do crystals have extremely regular geometrical patterns that are reiterative in their structures; they also have the potential of melting (in which case the order of particles moves increasingly toward randomness) to form compound substances, while metallic crystals (the rose in the steel dust metaphor) are electrically conductive (Murphy and Rousseau 228). Thus, the elusive "vitality" of energy Pound seeks becomes available scientifically through the metaphor of metallic crystalline electron distribution and "excitation," when the electrons of a crystal separate from top to bottom, creating a potential difference between positive and negative energies; electromagnetic stimulation of the upper region can also produce this "excitation" (Murphy and Rousseau 228). These metallic crystals "reflect" (absorb and re-emit) a luster rather than colors. Thus, the "prime pigment" of artistic resonance is the luster of subjective poetic emanation, explained within Pound's scientism of this metaphor of the "rose in the steel dust" of Canto 74. The hologrammatic form of the rose is imposed by its interpretation.

¹⁰⁴ As Richard Bube, professor of material science and engineering at Stanford University states, "the application of an electric or magnetic field or of a thermal gradient to a crystal results in a variety of carrier transport phenomena...associated with the motion of electrons and holes in conduction or valence bands," and that "the governing equation for the description of transport is the *Boltzmann equation*," which "describes the total rate of change of the occupancy of allowed states as a result of external fields, carrier diffusion, and carrier scattering" (211). This equation expresses how energy moves at a rate of distribution of forces from one body to another, from hot bodies to cold ones, in the process of *diffusion*.

¹⁰⁵ This device is very similar to John Donne's metaphysical image of gold "to airy thinness beat" in "A Valediction Forbidding Mourning," especially since the "fixed foot" of the "twin compass" of lovers is the "fixed" soul of the poet (747).

¹⁰⁶ This diffusion of thermoelectric power has the effect of creating various optical effects, based on whether or not the crystal is perfect or imperfect; all crystals in nature are imperfect because of atomic degradation in chemical impurities, vacancies, dislocations and other disfunctions and defects (Bube 245).

CHAPTER IV

LANG'S CINEMATIC BODY POLITIC AS PHANTASMAGORIA:

THE DEMONIZED CYBORG OF *METROPOLIS*

Without the heart there can be no understanding between the Hands and the Mind. (Lang)

Fritz Lang's *Metropolis* presents the first true cyborg figure of motion pictures, the cloned flesh-to-robotic Maria cyborg, created to simulate the human heroine Maria. When Brigitte Helm's true Maria states that "without the heart there can be no understanding between the Hands and the Mind" (Lang), her character reveals Lang's curious ambivalence in this film. He moves toward the construction of a postmodern cyborgian Body Politic, only to pull himself back into the dichotomies implicit to Western metaphysics that split Self from Other, Mind from Body, Male from Female, Presence from Absence, Upper Class from Lower, Active from Passive, and Subject from Object. The ghost in the machine of Lang's Body Politic, the Maria-cyborg, mirrors these disruptive dyads and account for both of the Marias' inability to overcome their unified programming from the very origin stories that inscribe their reasons for being.

Indeed, these contrary binaries are mirrored in political practices everywhere in Western culture, and because machines are modeled to produce work for humankind, Donna Haraway has stated "cyborgs are compounded of special kinds of machines and special kinds of organisms," a "hybrid creature" which serves as an organic and mechanistic figure of "information system, texts, and ergonomically controlled labouring, desiring, and reproducing systems" (*Simians* 1). The cyborg has evolved into an allegorical myth-machine which is caught in the historical mythologies of Technoscience

as informatic system, a body designed in its very architecture to interface with and perform only within the constraints of technoscientific observation.¹

Fritz Lang reveals in *Metropolis* that the patriarchal encoding² of feminized Others for the designs of technoscience, even in the very figure of the cyborg, had been proposed long before World War II: the cyborg is a fleshly extension of the robot as Lang portrays it, and as a myth of political identity, the robot/automata³ has a long history in such characters as the Talus and the Golem. The *control* of such automata is at issue with the robot and the cyborg, control over the programmed codes that identify the machine's function within human society. The robot/cyborg issue of control is not the control of things, but the control of human beings, a problem of subject/object relations which has its root in "the inhuman use of human beings" and the "mechanization" of man, since the robot/cyborg, by being a representation of man, becomes a part of social machinery (Wiener 16). According to Rosi Braidotti, "the human organic mass, the body, is the first manufacturer of technology in that it seeks for organic extension of itself first through tools, weapons, and artifacts, and then through language, the ultimate prosthesis," since "technology is not a priori opposed to and inimical of humanity" (44). Lang's use of the cyborg as an prostheticized human is actually a form of Expressionist primitivism, since the cyborg represents within this framework a falsehood, an artificiality, against which the Expressionists⁴ struggled. The cyborg, as a representation of man's identity, is a mirror to those fears of progress and regress, finally, too, a mirror of man's fear of losing identification with nature and becoming completely alien to it.⁵

Lang's cyborg is problematic because Lang was apparently unable to break with Western traditions in order to posit a body politic that could ultimately defy the dyadic structure inherent in such patriarchal systems. Lang's female cyborg partially meets

Haraway's criteria for cyborg construction: his cyborg is a demon called up by the informatics of the occult and the phallogocentric coding of scientific discourse, but one which throws off the shackles of her domination, creating, at least for a time, her own socialist-feminist politics. Yet because the Maria-cyborg is designed for specific functions to exist only within the controlling scientific and political sanctioning of her male progenitors, her success is short-lived. Even as this cyborg evolves to crush its own informatics of domination, her patriarchal creators remain in control of its architectural and textual inscriptions, both on- and off-screen; finally, the cyborg, as enemy, is destroyed.

The figure of the female cyborg exhibits the body in its multiple functions as subdued and subverted, as fetishized reproductive and economic commodity. She is constituted by governmental and scientific sanctions, "a coupling between the phantasmatic space that location technology calls into being, and the physical space of pain and pleasure that the human body inhabits" (Stone 399), a virtual Body Politic where physical and discursive elements congeal to form the perfect citizen of Metropolis. She is a tool of the state and the male bodies who covet her, because as the signifier of a location technology, her purpose is to "halt or reverse the gradual and pervasive disappearance of the socially and legally constituted individual in a society in which the meanings of terms such as distance and direction are subject to increasing slippage" (Stone 399). The female body as Other, in the guise of multiple shifting feminized identities, is objectified and commodified by technoscientific and political patriarchies for their own nefarious ends, only to find that the demon used to animate the cyborg body defies their control grids. Her role is one of wish-fulfillment/fetish for the male heroes of the film, as well as for the controlling eyes of the director and his audience. As fetish, the cyborg is a material

play-thing to be consumed by the all-seeing eyes of science, government and a targeted male audience. Indeed, the gaze plays a major role in the sweep between director's portrayal of the cyborg, the male characters' treatment of her, and the audiences' visual reception of her paradoxical presence/absence.

Lang gives sensory impressions to his audience through the visual metaphor of the cyborg. Like Haraway's cyborg, which can be seen as a metaphor for an architecturally and culturally-encoded system (163), Lang's fictional city and the structure of the film itself are revealed as mechanized bodies.⁶ Lang portrays the city of Metropolis as a structure built from a capitalistic economy: the proletariat workers (the Hands) have built the city, but they are the subjected machine-body which is exploited by the bourgeois Elite administrators (the Mind). The dichotomous dualisms implicit to the metaphysics of this economically exploitative system are immediately evident: the members of the Mind live above-ground in the Light (and are therefore "enlightened") and enjoy the fruits of the Hands' labor, while the Hands live in the "Depths," where they are never allowed to partake in those fruits. The Mind is considered as one entity consisting of many individuals, who are all unified by the decisions of one Mind, Joh, (short for Jehovah (Quinn), who represents the Law of the Father) who has the aid of Rotwang (German for "red jaw," "red cheek," or even "red fang"⁷ as in "red in tooth and claw,"⁸ representative of the conflation of Natural Science and Technology) ("Wang"). The Hands are multiple and fragmented by their inability to make decisions: the Hands must have the Mind to tell them what to do. The whole body politic of Metropolis carries the informatics of domination built into its architecture.

The allegory of the metropolitan city as body politic occupies the global scope of Lang's narrative. This allegory is brought down to a local level by the doubling and

emblemization of the body politic through the bodies of those characters who occupy centrally active roles as representative parts of the Mind or the Hands, who are the main actors in this film. This allegorization is necessary, because the global meanings of Lang's work can only be semantically comprehensible by "moment-by-moment contact with *local* details," since "viewers integrate details into larger structures by matching these details to schemata" (J Peterson 18). As Angus Fletcher indicates, the Body Politic is a Platonic allegorization of the human body image as representative of the organization of parts of political populaces, a notion originating in the polemics of Engelbert of Volkersdorf (1250-1311), who coined the phrase "Body Moral and Politic" to metaphorically describe the "health" and well-being of political and social groups (110). The architectural quality of this Body Politic provides the structure of the human body as an organic means of economy and production, while the Body Moral exudes a physical exegesis of hierarchical order as a holistic matrix, where fragmentariness and disorder are "unhealthy" (Fletcher 110), a transcendental nominalism that is consistent with Expressionist notions of animal organics, progress made by regression to primitive states of pastoral utopia.⁹ The architecture of film narrative must integrate local details as the foci of audience viewing first, before viewers can make sense of the film's plot as a whole.

This allegorized system of represents the universal state of man through the portrayal of particulars, so that the body is viewed as a compacted microcosm/ macrocosm, where the Body Politic is represented by one person. Freder is that body, since his father Joh is the Master of the city. The architectonic quality of the city as Body Politic must be seen separately from Freder's and Joh's bodies, though, so that it can be seen as a projection of their desires. Stephen Barney indicates that this type allegory is called "literal expressionism," also known as "projection allegory":

akin to hypostasis, the materializing of the divine substance..., and may be defined as the reification of abstractions which are thought to be part of a complex whole. A part of the soul (a faculty), a part of the physical universe (an element), a part of the philosophical cosmos (an angel, an emanation of the Demiurge, Nature), a part of the body (a humour, the heart), a part of the pantheon (a mythical deity), a part of a social order (a class, a profession), a part of a temperament (a vice, an instance, a passion) are given concrete status in a fiction. (Barney 35-6)

These images are superimposed in the bodies of the characters of Lang's fictional city, where Freder's struggle for individual consciousness is projected onto the physical battlefield of Metropolis. This is a typical Expressionist psychological framework of the Oedipal conflict.¹⁰

In *Metropolis*, Freder is the hero of its story, caught in this Oedipal struggle for his place in its Fatherland, demonstrating the levels of personal sexual ambivalence toward Joh as his father, as well as toward his dead mother Hel, even though all references to Hel were taken out of the final cut of the film, and even further edited down for the American cut. As Frederick Levine notes, the Expressionist hero, as artist/philosopher, "stood at the crossroads of a profound dilemma... . He could either surrender his newly acquired values and accept his given position within the empire he detested, or he could pursue the path to which he felt destiny had called him, to offer a spiritual alternative to a world burdened by excessive materialism" (Levine 13). Freder's journey for self-consciousness is an allegory of the journey of the hero, for recognition of his role as a future leader of Metropolis.

Barney notes that it is typical in such allegories for the hero to project his disposition, that is, express it, into the personae of other characters who can be fictional, or even mythic, in status: "Fletcher observes that many of the fragmentations and realignments of the psyche which are characteristic of psychotic states have counterparts

in reification allegories of projection, doubling, demoniac persistence..., and the various other forms of monstrous bewilderment” (Barney 36). The personification of the Maria-cyborg acts as a mirror image of Freder’s projected fears; we cannot enter his consciousness directly, so the next best thing is to actually see his fears come to life in his exterior surroundings. Freder does little more than respond to these surroundings and the events that correspond to them, so that it seems that Freder, as Barney predicts, is little more than a “mechanical clown” who responds passively and mechanically to these situations (Barney 36). However, he is the centerpiece of the allegory itself, which the screenplay in time reveals when he is portrayed as the mediating “heart” who brings together the mind (Joh) and the hands (the workers).

This coding system works at the level of local individual motive power, thereby spreading significantly to global levels; whether these patriarchies are aware of their transgression over weaker members of their collective is moot. If a subjection of masses of people is occurring, then something is wrong with the system, or else with the people who are in power of those systems. This social tendency toward control has to do with power to manipulate capital in economies: power to manipulate cultures brings with it the power to manipulate individuals, and vice versa. According to Ruth Anthony El Saffar, “the ability to galvanize collective power for the purpose of appropriating alien labor and resources assumes an organization of the individual and collective psyche that is based on such dualisms as self and other, light and dark, good and evil, masculine and feminine, logos and Eros, consciousness and the unconscious. In dualistic thinking, difference is understood as opposition” (38). These individual parts are the cogs which either help the mechanization of Metropolis work, or else, must be fixed as broken parts, also commodified objects.¹¹ The economy of subject-object dichotomies is important to the

structure of this film because this economy, which in this case is focused on the economy of the body, exposes how the oppositional natures of subject-users in an economy dictate use of object-things, even if fetishism of this kind produces a “false consciousness” that is unique to capitalist production: “Man’s own activity thus becomes, by virtue of this division of labor, an alien force which confronts and enslaves him, something not controlled by him” (Pilling 162). These oppositional parts are broken down into subject and object construction by their semiotic placement in the linguistic coding of the social “machinery” of relations between actors, which act as catalysts for the action portrayed. Social being cannot be constructed, however, until these individuals can see their individual roles in context to the cultural and social constructions that already exist, which include social constructions of commodity fetishism already in operation in cultures. Such roles are built on Westerns dualisms, which function to dominate “all constituted others, whose task is to mirror the self;” these dualisms include “self/other, mind/body, culture/nature, male/female, civilized/primitive, reality/ appearance, whole/part, agent/resource, maker/made, active/passive, right/wrong, truth/illusion, total/partial, God/man” (Haraway *Simians* 177). Such is the situation in the city of Metropolis, which is a complex construction of man and machine power, allegorized in the bodies of Maria and her cyborg twin, which are merely extensions of Freder’s metamorphosis of consciousness as the leader of a new world, the mediator between the body of the populace and the civic mechanism of the city.

Lang’s *Mise-En-Scène*: The Architecture of the Body

Lang’s cinematography reveals a very definite emphasis upon German Expressionistic technique. Lang’s cinematography evolved from his early artistic

endeavors: Lang was both a painter and an architect in Paris before he assumed his film career in Germany; more importantly, however stated explicitly that he was primarily a visual person (Eisner 9), and his use of architecture is explicitly Expressionistic in his dialectical use of light and dark to create an apocalyptic tone for the film. He desired Expressionist movement to express his own *Gestrafferwille* (tensed-up will power) (Eisner 60).¹² Lang's Expressionist themes¹³ specifically emphasize the apocalyptic tonality of Expressionist horror of mechanization and urban artificiality and ugliness in comparison to primitive life and Nature.

Lang uses actual written narratives only sparingly to clue his viewers to plot development in this film, and relies instead upon the stark imagery he could get out of black and white frames to create a city of sharp contrasts, but one which was especially mastered by the German Expressionists in their dark visions of Apocalyptic decline, where alienated nature was linked to the site of the female body as degraded. As Stephanie Barron notes, the thematic focus on the modern city is specifically Expressionist, emphasizing the horrors of individual alienation, crowded living conditions, poverty, and the ugliness of its life as a tangled maze of bastardized nature, all as an antithesis to the desired natural utopia; the prostitute was a common image in Expressionist painting of such alienation, since she seemed to epitomize this ugly seductiveness, becoming an emblem for the modern city itself (Barron 24), possibly because the prostitute is a body who is particularly victimized and made into a parasite by the overall economic health of the city where she resides. Such a fact is important to the consideration of Lang's portrayal of the Maria-cyborg. Foster Hirsch states that the "angular, hallucinatory, and violently emotional style" of Expressionism was a response to Impressionist use of light in nature and "man's comfortable place in it"; in response, the Expressionists converted

“inner demons into images of tumult and breakdown,” translating the subjective feelings of the artist and “faithful only to the vision, he created phantasmagoric transformations of reality” (54). As Chamberlin indicates, such images mark apocalyptic moments of degeneration and regeneration metamorphoses, caught between the paradoxes of “the differences between degeneration conceived as a scientific pathology and degeneration conceived as an aesthetic or ethical anarchy, or between disorderings and perverse orderings” (“Images” 265). The city as site of alienation offers a format for the filmic image that encapsulates that universal struggle.

The city’s architecture, both human and non-human, therefore *is* the content: Lang tells the story of a thriving economy which comes close to degenerating because of the dyads that separate its men from its women, its proletariat from its bourgeoisie, and father from son. Lang’s story is about a political mediator, an *Übermensch*, who must encounter the truth of his own soul, the demon cyborg, which is but a mere mirror image of his own heart, his own haunted identity. Lang allegorizes the city of Metropolis by condensing and conflating it with the image of one character: the Maria demon-cyborg is a reification of the city itself, a city which must learn to exorcise itself of the demons that torment it. According to William Harmon’s analysis of Pound’s “In a Station on the Metro,” “the root of ‘Metro’ means mother” and also yields the name ‘Demeter’ ” (51), meaning that it is entirely appropriate according to linguistic history to metaphorically associate the city with a female character, since “she” is “Mother Earth,” the origin of all things natural. The mythology surrounding the place of origin and its function as “mother” get troped in the form of a mother-figure, Maria, whose image is superimposed with that of an absent character, Hel, Freder’s dead mother. The mythologization of this

figure makes for a typological allegory that further reinforces the framework of the film's story.

According to Stephen Barney's definition, "reification" allegory "differs from personification in its extensiveness; unlike personification, a reification allegory affects the whole operation of a fiction, in that it 'permanently' affects the nature of the literal itself" (34). According to Vitruvius' theory of 1521, using the body as an architectonic symbol is an ancient metaphor, useful as a model of all kinds of work, but particularly as symbolic of perfect symmetry (Hall 173).¹⁴ The mystery of this image serves as a function of the mystery surrounding all identity, and this image encapsulates the microcosm/ macrocosm of mankind as Lang uses it in *Metropolis*, cosmic order arises from the stratifications of class, where its codes are controlled by a dominant hegemony of patriarchal circulation of its members as capital commodities.

The body is the original tool of production and reproduction, culminating in the politics of sexuality that dominates the formation of all identity since it is primary to role in production. As Rosi Braidotti formulates, "the human organic mass, the body, is the first manufacturer of technology in that it seeks for organic extension of itself first through tools, weapons, and artifacts, and then through language, the ultimate prosthesis"; thus, "a primitive sort of anthropomorphism pervades the technical universe," since "all tools are...products of the creative human imagination, copying multiplying the potencies of the body" (44). This anthropomorphism is a synecdoche, a metonymy produced in order to represent the global at the level of the local within a particular matrix, the mother-womb of developmental growth and transformation (Springer 58). Thus, the hierarchization of the body has potential as a figure where all parts act to produce an overall health, and the female body is a tool that can reproduce itself¹⁵ to form networks of human machines.

Any meddling with this order, such as attempting to include a description of a description, completely disrupts its Chain-of-Being hierarchy. Therefore, the maker of mankind must remain silent but implicit within the coding of the system out of deference to his own hierarchy.

The disruption implicit within the fragmented body of the Maria-cyborg implies the condition of all mankind, that essential alienation of every person from their maker. Lang's narrative functions to construct the sense of alienation caused by this confusion of identity, as an Expressionist theme of urban alienation in general. Alienation, within these terms, is a "sickness" of the Body Politic. As Chamberlin notes, such a paradox occurs within this convention when "the progress of the spirit [is] accompanied by the degeneration of the flesh" (Chamberlin, "Images" 264). In the Body Politic, and according to the images of degeneration familiar to nineteenth-century cultures, such as those drawn from theology and biology, in which "cultural health was most often measured by its evidence of disease--its symptoms of decline, its morbid tendencies, its unbalanced disposition, its subversion or perversion"¹⁶ (Chamberlin, "Images" 269). The result of such a perversion of the body [especially the female body perceived as a castrated phallic mother image] is reified as a sickness¹⁷ of the whole Body Politic. A major portion of story that was cut out of the film regards the death of Freder's mother, which is the "sickness" that afflicts Metropolis. Her death, brought on by the feuding Joh and Rotwang, hastens the city's decline, and her entry into the realm of spirits sets the stage for the events of the story. The Body Politic is therefore "demonized" by her absence and the presence of her memory for the three male characters around which this story is told. The city must purge its "demons," a body transformed and transforming its world, with spirit as its final goal, but its own degenerate spirit almost brings about its own death. In

the body of the cyborg-Maria, Lang is able to reconstruct an allegorical myth-machine which is designed in its very architecture to interface and perform for technoscientific observation and work for dominant political agendas. Maria's shifting essence, like the city's own identity, is constantly in question throughout this film, but it is through this portrayal of queasy instability in rising action that Lang is able to play out his Marxist allegory. Therefore, the body of the cyborg can be seen an extension of the city of Metropolis *and* of Lang's own filmmaking process, where Lang becomes the omniscient puppetmaster of his cast of characters. By combining the effects of German Expressionism¹⁸ with the older Futurist emphasis on speed and motion within static frames, Lang is able to connect the architecture of the city as machine with the mechanical and the organic in such a way as to reify the city through the form of the Maria-cyborg, the conflation of subject with object, city architecture with human flesh.

The architectonic features of Lang's art follows the conventions of visual imagery of painting and architecture of the Modern times, where an emphasis on "fuzzing" of reality through the juxtapositioning of light and dark of the *mise-en-scène*, a montage which portrays the human character as a microcosm, a figure representative of a whole cosmos, a synecdoche which in the narrative becomes a reified allegorical narrative of the story of humankind. This *mise-en-scène*, according to Eisner, portrays "the whole," which "becomes a kind of chess board where black and white become formal adversaries" (80), revealing the inherently dichotomous, isomorphic metaphysics implicit within the structuralisms of these modern allegories of cosmic humanism. Lang's background in architecture is revealed in his decided play of contrasts: for example, Lang's use of light and dark give that combination of atmospheric effects that work to give the film a sense of macabre distortion, and such effects of imagery mirror the philosophic ideologies

portrayed, not to mention its potential for metamedia reference. According to Eisner, this is a chessboard strategy of dialectic opposites, which both work together and strive against each other.¹⁹ This is the same kind of balancing oscillation of irony that Conrad used in his novel. Opposites here serve to stratify the differences between father and son, male and female, good and evil, and master-servant, differences that come into conflict in the film, reinforcing the ethical backbone of the story by its dialectic portrayal.

Using visual association with the black-and-white static framing of silent film noir,²⁰ Lang made his pictures utilizing the connections between architecture, mechanical devices designed to do human work, and human bodies: “if Lang’s work is ‘based on a metaphysic of architecture,’ as Claude Chabrol claims, then this is because ‘as a stylist Lang has remained faithful to the principles of the silent films of the early twenties’” by creating “‘effects within static frameworks...the architect factor...[is] an element of narrative content’ ” (S Jenkins 52). The architectonics of the human body provide the model from which Lang is able to work, and his Expressionist emphasis on cinematic plasticity is literalized in the form of the Maria-cyborg.²¹ Lang’s cyborg goes beyond mere mechanical dynamics by demonstrating that she is created through the principles of matter-theory, especially cellular structure, which is grown onto her robot skeleton. As Stephen Toulmin states, “the principles underlying matter-theory...are neither teleological alone, nor mechanical alone,” because “they are *architectural*,” where “in Nature a hierarchy of active forms, which runs from sub-atomic wavicles, through atoms and molecules,...to cell-parts and cells, organs and complete organisms...characterized in terms both of their structures and their activities” (Toulmin 376). The Maria-cyborg skips the subatomic processes to the cloning of cellular structure in order to focus the audience’s attention upon the one-on-one relationship between cells, providing the morphology of a

growth matrix. The space of the body reifies the larger space of the city, the local Maria-cyborg reifying the body-space of Metropolis. As Claudia Springer notes, “spatial and social relations in *Metropolis* are more clearly delineated,” since “the rich live on top of the poor, literally and figuratively,” where “the power of science and the state resides entirely in wealthy men who use their strength to maintain control over women and working-class men, who, it can be argued, have been feminized by their subordinate position” (152-53). According to Springer, film scholar Roger Dadoun demonstrates how the “enlightened” wealthy “Minds,” the administrators and scientists of Metropolis, live in the city’s surface, consisting of “powerful phallic skyscrapers” and “steely hard industrial technology;” they hold sway over the worker “Hands” who live in the underground of the city, where “twisting paths leading through dark caverns create a feminized space, a metaphor for the womb, reinforcing the film’s construction of Maria as a maternal figure and evoking female sexuality,” where “this feminized space exists far below the surface of the earth because, in psychoanalytic terms, female sexuality has been deeply repressed in the city of Metropolis” (Springer 154, 153). Phallic power is maintained through the mechanisms of technology, the artificial, while feminine natural genesis as represented in the figure of Maria is suppressed. “The film’s conflating of women and technology thus functions to evoke and then eliminate the dual threat of sexuality and technology. Patriarchal and capitalist order is restored by suppressing women and sexual desire and harnessing mechanical power” (Springer 151). This technique of personification goes further than simple application to the film narrative; it is an autobiographical story of Fritz Lang’s own struggle within the space-time of Hitler’s Germany to gain control over his own personal demons, a struggle that begins with an explanation of the relationship between the characters of Freder and Maria.

The Father, the Son, and the Holy Ghost:
Batter My Heart, Three-Personed God²²

The localized theme of this film concerns the hero, Freder, who suffers from an unresolved Oedipal complex, stemming from an arrested mirror-phase development of his identity. Freder's coding of the Other occurs during his misrecognition of doubled images of his own identity, and these images are caught up in an intricate web of self, world, and language. Subject-object contrary relations are a primary focus of Lang's allegory, since it concerns the hero's subjective perception of a disintegrating utopia, which in turn reflects the turmoil of his own ego construction (Mayne 32).²³ The individual unconscious within the subject position of Lang's film is represented by Freder. Freder's story is that of a savior, the new Christ, a history represented in a trinity of images: as the new Christ, he is alienated from his father, Joh, and bedeviled by the Maria-cyborg, a ghost in the machinery of the city. The "rape" of subjectivity occurs when the heroine, Maria, is "raped" by the objectifying phallic gazes of Joh, Rotwang the scientist, and Freder.

At the beginning Freder is untouched by any concern about the ways of Metropolis, until he encounters Maria, the daughter of a worker, in the Gardens of Pleasure. The Biblical thematics implicit in the film begin here: as Freder is chasing a woman around the Garden, Maria enters to conduct a tour for the underground workers' children. Lang draws Freder and Maria as Modern figures of Adam and Eve. Freder is tempted by the forbidden fruit he sees in Maria, for she is his opposite in gender, class, and social consciousness. When Freder immediately fixes his gaze upon Maria, he forgets all about his playmate of only moments before; he has taken the fruit he perceives her to offer, fruit forbidden to take by the Law of the Father and Master of the city, Joh. Determined to find out about Maria, Freder discovers that she lives in the underworld of

the workers and follows her there: just as Adam is punished for taking the forbidden fruit, Freder is punished by his own conscience. Lang turns to a set of common allegorical mythemes of Biblical imagery, in order to portray this moral dilemma.

Biblical allusions within the two Maria's images act to disrupt Freder's sense of the ethical appropriateness of sexuality: Maria's name refers to the Virgin Mary, who stands for the organic, good Maria, the one surrounded by children, perhaps standing for Freder's mother Hel as a desired object for both Freder and Joh, leading to the Oedipal complex triangle. The invocation of the Madonna's name as idealized mother of Freder's memory meets with Freder's approval because he had no access to bonding with his real mother or of getting through the Oedipal stages that most boys must face in their childhoods; in Thea von Harbou's novel, Freder "addresses a statue of the Virgin as 'Mother' " (Jensen).

By following Maria to the underworld, Freder is admitted into a world of toil and subjection. Freder is further galvanized when he witnesses a malfunctioning machine kill a worker. He perceives the machine as the god Moloch, to which worker-slaves are sacrificed, and begins to question the justice of his father's rule. Confused by this injustice, Freder asks his father, Joh, why the workers are treated so badly, and why they do not share in the wealth of the city. Joh answers that the workers *belong* in the depths. Freder is presented with the dilemma of choosing to dwell with his Father in "heaven," or with Maria in the pits of despair. Freder's need to possess the Other leads him to choose Maria. Freder's perception of his Father's word as unjust, brings his own identity into question: who is Freder if he is not the son of the Master? He goes to find Maria underground and discovers her preaching to the workers about the history of mankind's stratified class systems and teaching them how the city of Babylon, like Metropolis, was built by slaves who were unable to share in the city's glories. Joh decides to retaliate

against Freder's defection by capturing Maria for his own purposes and rewriting her coding.

Having sent a spy to watch Freder during Maria's sermon, Joh discovers Maria's political and charismatic control over the workers and thinks that if he can control her, he can control the workers. However, how can he control her, if she defies his Order, represented by his dualistic laws? His solution lies in technology and science, so he goes to Rotwang, an old rival, yet ostensibly the logical man for the job.²⁴ According to Springer, "Frederson's closest associate in the film is the male inventor Rotwang, and in their collaboration we see science serving the state, using its specialized knowledge to assist in the suppression of dissent" (151-2). Rotwang helps his Master to conquer the feminized masses by masterminding a technology of the feminine figure itself. But he can bring about this transformation only through the Word of a greater Father: he calls forth a Demon to animate the robot. With the demon's aid, Rotwang mechanizes the growth of flesh onto the robot in Maria's image.²⁵ However, in order to create the cyborg in her image, Rotwang has to kidnap the real Maria, for this can occur only when he has real flesh from which to model. The cyborg becomes a transgenic organism, her flesh cloned from Maria's flesh. The difference between Haraway's cyborg and Lang's cyborg is revealed by the robot's rhetorical situation in the film: her animation is a *deus ex machina*, since the Maria cyborg has no electro-vitality of her own to begin with; her spirit must be fashioned by occult programming.

As reified emblem of the human and the demonic, the cyborg has the most important function of the film.²⁶ She epitomizes the split between mind and soul, the dialectic of thesis/antithesis. Her negativity assesses and defines the ideal by showing that she is *not* the ideal of beauty of the Mind, while becoming the agent for Lang's evaluation

on the evils of Modern society, an analytical exteriorization of ambiguities. The cyborg's body, an embodiment of the genetic rape of the unwilling Maria, symbolizes the rape of the city of Metropolis, whose citizens know nothing of their patriarch's evil plan of control. As a body politic, Maria's body becomes "demonized," a Typhoid Mary rife with the potential of infecting the populace of Metropolis with the disease of mindless obedience, but the demon has Other plans. Although Joh plans to use the Maria cyborg to control the workers, he misjudges the potential for anarchy represented by the cyborg's chimerical construction, and he fails to consider how this construction of evil will affect the mirror-identification of Freder. Neither Joh nor Rotwang think about the fact that the spirit of the cyborg is that of a demon. Meanwhile, Freder has already identified Maria as an Other, in terms of her alienation as a member of the Hands, her position as female, and as an opponent of his father's power structure. However, when the cyborg takes on the form of Maria, she takes on Maria's role as Other in addition to her own already Abject²⁷ essence. Outside every power structure, the cyborg cannot be controlled by Joh, Freder, or Rotwang. To give the robot actual female flesh is to replace its mechanical aspect with organic suppleness, giving her both freedom of movement and sensual rationale. Science has usurped the work of normal genesis.²⁸ Rotwang's demonic cyborg technology releases the cork from the bottle, allowing the imp of female alterity to escape. As one can see from the evidence of Lang's film, the idea of cloning had been around long before Watson's and Crich's discoveries of DNA, especially since Gregor Mendel's formation of heredity dominance and recessive traits of 1866; if plantlife can be altered through pollination tricks, then so can the human body be artificially generated, and as Hitler's experimentations with his own people during the Third Reich prove, German wariness over the dangers of cloning were then very real and warranted.

Animating the cyborg with a demon threatens the male structures of power: both Joh and Rotwang underestimate the chaos and potential for anarchy this feminized spirit will present to them. As a demon, she already has her own Abject essence, a conflated subject/object/presence/absence position, opposed to the unification strategies of God and Mankind alike, and therefore, she cannot be dominated by their power structures, despite their attempts to program her; as a female, however, she is eventually destroyed by the logocentric patriarchy, since the demon takes the form of a woman.

The Heart of the City: The Mediator's Mirror Image

Freder, as “heart” of the city,” is the generator of action in this film. I have demonstrated the relationship of Freder to his father Joh and the scientist Rotwang as the triad within the Monad of the city as their universe. Freder as “heart” is a an inverted human heart, a tetragrammaton, representative of the name of God, inverted (Hall 73). In ancient Greek theosophy, the human heart was considered the center of spiritual activity and the controller of both intelligence (the Mind) and the generative or productive body (the Hands, which is why the audience only sees children of the workers and not the Minds in this film) (Hall 74). I discussed this aspect concerning the construction of Pound's cone, but when applied to the visible form of the human body, we can now understand the relationship between the Heart as primary spiritual center, the secondary Mind's intelligence, and the body's function for the production of progeny and work.²⁹ The cyborg is one such body, come to life. Joh, short for Jehovah, is mirrored within Freder's own genes, so that we see that his subsequent possession by the demon-cyborg is his possession by Joh himself.

Lang's portrayal of the antagonist/antihero,³⁰ as well as the hero, explains the motivation of all of his male protagonists: "to show him as a human being possessed of some demon that has driven him beyond the ordinary borderline of human behavior" (qtd. in Eisner 401).³¹ Freder recognizes Maria as an object of his heart's desire, since she becomes a substitute for his dead mother, but he misrecognizes the cyborg's image for that of Maria the virgin. The cyborg takes an active role as a *Döppelgänger*, the demon driving Freder's character. Joh and Freder essentialize the organic Maria as a commodity to be used, but while Freder sees her as object of desire, Joh sees her as an object of power to be controlled. Joh has no use for the organic Maria as an object of desire, as Rotwang does when he identifies her with the dead Hel. He thinks he can control the cyborg Maria, but the cyborg has other plans. Maria and the demon cyborg becomes the object of focus of the film, because they are the active agents who disrupt Freder's identification with his father, thereby disrupting the city's power grid. The unified identification of the male protagonist is disrupted by his misrecognition of his object of desire and Other. Stephen Jenkins states that displacement occurs in Lang's films where "woman as object...[acts as] a number of substitutions for, or doublings of, the female image..." (Jenkins 41). Mirror-identification in itself can be seen as a doubling process that displaces the logocentric visions of the male characters and spectators of the film. The cyborg is an allegorical agent, which "is always a division of some larger power" (Fletcher 60). In this case, she acts as a disruption to Freder's identification with his father, which in turn disrupts the city's hierarchy of power.

Essentially, Freder must go through his Oedipal Mirror Stage as an adult. Freder does not know to handle the sharp dichotomies presented to him by his memories of the good Maria he saw in the Garden, as opposed to this sexualized creature, whom he

discovers in his Father's arms. This sexualized Maria is a hypostatized emblem, since the cyborg's "agency becomes confused with imagery,...[where] action becomes a diagram" (Fletcher 150). However, the sexualized Maria that Freder encounters in the arms of Joh stirs up Freder's Oedipal conflicts. He confronts too many feminine sites, too many multiplications of feminine identity, as compared to the ideal of masculinized unity. Sex can no longer be an immaculate conception for Freder after he recognizes the Maria cyborg as the mirror image of his sexual identity. Even the cyborg's wink at Joh's commandment reveals a mirroring and splintering into many facets of deceit in play. The cyborg is, after all, part flesh and part robot, but is animated by a spirit of evil, whose wink splits off meaning into a metanarrative significance of the multiple levels of meaning for the story's allegorical meanings. The cyborg's doubling and re-doubling has split the gazes of institutional domination by science and cinema. Looking takes on a grim aspect for Freder: as he is taken away to suffer from hallucinations and bad dreams, the camera intercuts shots of the cyborg Maria's introduction to the phallic gaze of science. As Lotte Eisner relates, the original version of the film reveals how Freder "seems to be falling into an abyss; and finally everything is turning about him--a visual effect" that reveals unconsciousness, so that the audience knows that he is dreaming in the next sequence (86). Dreaming becomes a narrative technique with which Freder can transcend the normal constraints of unconsciousness, of being oblivious to the conscious world; in this scene, Freder is allowed to see to the spectacular apocalypse of the cyborg's influence, as projection of his own desire and the ritual of "repugnance in opposition to the framework of existing institutions" (Calvino 53). Freder's ideal ego is given to him in this dream as a form of *Gestalt*, the exteriority of values implicit within the cyborg's "pregnant" image of conflicting permanent identity and a prefiguration of its alienation.

The phallic gaze demonstrates itself as a delusional intoxication of narcissistic desires that, in its continual inversion, will lead finally to the death of the city if it remains unchecked. Maria's capture by Rotwang in the city catacombs gives Lang's audience the first glimpse of the phallic gaze at work. The scientific phallic gaze works because he is able to pin Maria into the role given to her by a state-sanctioned Science. As Rotwang closes in on Maria, the audience is shown only a shot of Rotwang's crazed eyes in the glare of the flashlight, disembodied. His eyes *freeze* Maria, situating her as the object for his domination: this is the first time that Lang portrays eyes as disembodied in the film, and this phallic gaze inscribes Rotwang's powerful coding of science as subjecting authority over Maria as object of inquiry. Roland Barthes identifies this "transfixing element [of details] that certain images communicate" as *punctum*, a surprise that is involuntary, as opposed to the *studium* reaction of "cultural participation in the information or emotion the image conveys" (Calvino 305). This surprise dilemma implicit within the image of the Maria-cyborg, clutching Joh, takes Freder so off-guard that he goes into shock and sinks down into unconsciousness, when he experiences a nightmare. He sees the Maria cyborg on a stage, rising through an ethereal screen and then emerging from a mechanical clamshell as an electronic Aphrodite, dancing seductively in her role as whore of the New Babylon riding the beast of the Apocalypse, surrounded by the uplifted, worshipping "hands" of the scientists, rather than by their "minds." The Aphrodite image is a typological allegory imposed upon the more expansive reified image of the cyborg, significant because Aphrodite's image is specifically related to libidinal individual identity.³² The bisexual nature of this Aphrodite is implicit to the Freudian identity crisis for the male, who is confused by her gash, believing in her status as a Phallic Mother who has been castrated. The castration of this Aphrodite is the mystery of the absence of a

phallus, since the fantasy of the phallus stands for the desire for power; the truth is, neither the cyborg nor the men who watch her possess this phallus. She is revealed as a chimerical creature, full of masking potential, capable of debunking the mythology of unison between father and son.

Nowhere in cinema or in literature has the phallic gaze found its niche better than in the scene that follows Freder's fainting spell, when Joh and Rotwang exhibit and test the cyborg's life-like qualities and its ability to deceive in an exhibition before an auditorium of male scientists, while the hallucinating Freder plays psychic voyeur to this spectacle of ego/id struggle. The auditorium where Joh exhibits the Maria-cyborg is the third inversion symbol, diametrically opposite to the neglected Catholic cathedral³³ at the city's center where Freder was supposed to meet Maria. When the Maria-cyborg dances her blasphemous Salome "temple dance," which in worship services used "ritualistic body movements and hand gestures that were meant to evoke spiritual transcendence," she transforms the auditorium into "an 'architectonic' space...[that articulates] a framework" evocative of a desecrated church (Ranfft 68-9). She becomes an icon for the worship of the Minds, an emblem of transcendence who masks an ulterior apocalyptic evil.

Like Lynn Randoph's painting, *The Laboratory, or The Passion of OncoMouse*, reproduced in Haraway's *Modest_Witness@Second_Millennium*, which reveals the OncoMouse as transgenic spectacle who must pay for the sins of the male gazers surrounding her, Lang's cyborg is revealed as reproductive/sexual machine and capital commodity, the perfect emblem of Woman held in the unified stratagems of phallic gazing. Science has usurped the work of normative genesis, which brings in the question of how science uses Woman as a means of capitalistic production, as reproductive machine.³⁴ Like Haraway's cyborg, Lang's cyborg is both a personal and political mythology, "a

network ideological image, suggesting the profusion of spaces and identities and the permeability of boundaries in the personal body and in the body politic” (*Simians* 170). The cyborg is perfectly emblemized through the body of a woman who is held in the unified strategies of phallic gazing.

The next frames significantly cut to one frame filled with the eyes of these scientists, who consume her image with their gazing. The multiple gazing, too, signifies something else going on: the cyborg has split the gazes of these individual scientists, but they can always reband to form a unified objectivity, itself made up of many parts but always in unison, in defiance of the cyborg’s multiple sexuality. Even while the cyborg’s image diffracts, this diffraction, which is “an optical metaphor of the effort to make a difference in the world” (*Modest_Witness* 16), is rejected by these scientists, who only see the object of sexuality in front of them, never questioning the cyborg’s image. The camera cuts back and forth from the images of the cyborg and the scientists, until eyes fill the screen, like Rotwang’s, disembodied, a nightmare in a hall of mirrors. The unified gaze of many different eyes reveals the desire for control that drives their fetishism. Laura Mulvey explains this reticence on the part of the male gazer to relinquish control of the gaze: “In a world ordered by sexual imbalance, pleasure in looking has been split between active/male and passive/female. The determining male gaze projects its fantasy onto the female figure...” (Mulvey 19). Furthermore, “in their traditional exhibitionist role women are simultaneously looked at and displayed, with this appearance coded for strong visual and erotic impact so that they can be said to connote *to-be-looked-at-ness*. Woman displayed as sexual object is the *leitmotif* of erotic spectacle. (19) Rosi Braidotti calls this fantasy of phallogocentrism “the ‘cannibal/eye’ of unlimited disembodied vision” (73), a vision which the gazer uses to situate its intended objects of desire into homogeneous

sites.³⁵ Furthermore, while the scientists debunk their own objectivity by breaking into fights over her, the cyborg simply laughs; she has no truck with this fantasy, but she will nevertheless use their naïveté to her advantage.

When technoscience is used to substitute for human beings, the danger exists that the technoscientific simulacrum will fool its observers into a false sense of security. Identities can be shattered in the ensuing struggle for power. The scientists worship her as a goddess, and she demonstrates that she has power over Hands and Minds alike to influence action.³⁶ She becomes an image for the male spectator to worship, a commodity to be consumed, but she will turn into a consumer, as well. The mirrored dyadic images of the two Marias act as foci for the ideologies represented, as well as the conflicts met by the male characters.

As Braidotti notes, the concave mirror image reflects “the role that women are expected to play,” since “a woman is the flat surface that is supposed to reflect the male subject” (71). The cyborg can be seen as Maria’s mirror image, exactly diametrically opposite in her ethos to Maria’s ethos. The cyborg’s image caters to these male gazer’s mirrored images of desire; however, these male scientific viewers fail to recognize the malevolence behind the cyborg’s adherence to Joh’s plan.³⁷ The female as scopophilic object serves only as “waste, or excess, what is left of a mirror invested by the masculine ‘subject’ to reflect himself, to copy himself” (Irigaray 30).³⁸ The Maria-cyborg mirrors masculine desire for power over the Other misrecognized as a reflection of the male self.

The scenes depicting Joh’s exhibition of the Maria-cyborg for the Minds of the city are intercut with scenes of Freder’s hallucinations: as he “gazes” at the Maria cyborg dancing her seductive dance, he seems to see visions of the sculpted figures of the Seven Deadly Sins breaking away from their statue repose from the city’s cathedral. As these

figures advance, the statue of Death marches in their midst, swiping his scythe in Freder's direction. These stone images can represent a couple of different values. As Lang noted, one of his original foci in this film concerns how the worship of the cyborg (desire and technology) leads to the release of the seven deadly sins from the cathedral, "where they had been imprisoned by the Catholic faith" (Eisner 86), leading to the degeneration of the city. As Erich Ranfft notes, such an image is specifically Expressionistic, a visionary approach to offering sculptural figures as the opposites of guardians of the cathedral: instead of guarding it, the figures themselves are guarded (70).³⁹ The other focus of this image concerns Freder's dream as a frame for the projection of his desire and his horror/fascination with Maria.⁴⁰ This death-like sleep is prophetic, lucid, a projection of the fixation of images that indicate that this fixation of images has resulted in the hypostasis of death in the relationship between the image and the self (Calvino 300-01). I read this part of Lang's film as a reference to the threat of the Father as rival. Freder learns to associate this image of the cyborg's sexuality as a threat of castration, both from the Father as castrating rival and the Other as mirror image/residual memory of the imagined castration of the phallic mother.

The presentiment of the dyadic images of Maria upsets Freder's ego-equilibrium, which he deals with through delusions of persecution. Freder is unable to overcome this difference reduce the Other to the function of his gaze. To claim his role as powerful mediator, he must be reborn and advance past the mirror stage and into the realm of the symbolic word of his father. Freder regains control when he finds the real Maria and wins her over; however, by doing so, he has coerced her into stepping back in line with the Laws of the father, thereby diluting her previous efforts, even though the Father and the workers are brought together. Freder as mediator attempts to fragment the efforts of the

Father, albeit unconsciously, by undercutting his strategy of power, which is based on a unification upheld by strictly dichotomous, stratified classes, enacted by his capitalist economy. That subversive fragmentation does not last, because through negotiations with his Father Freder is eventually introduced into the realm of the symbolic, which-re-establishes the old dualistic order once again.

This “re-vision” of mastery in the matrix of father’s dynastic rule occurs when Freder begins questioning his father’s fairness to the workers, whereby the individual, as unified mirror-image, because self-mastery is revealed as an illusion. The castration complex, as revealed by the image of the Grim Reaper’s scythe, is a dream of this re-vision in the making. “This illusion of unity...entails a constant danger of sliding back into the chaos from which he started,” because “such regression...typically occurs in dreams that involve body fragmentation, decapitation, ripping open, etc.,” especially when the person’s ego suffers a failure of recognition in the mirror phases of development (Lacan qtd. in Muller 130). Freder may have to deal with these ego problems as an adult because he possibly never confronted them as a child, since his mother had been absent from the time of his birth. Birth and rebirth, in fact, are subliminal topics in the film, with mirror images of the women in his life portraying the significance of ego transformation for Freder.

The cyborg as mirrored image, being liminally transformed, also attempts to redefine her role by defying the commodity fetishism of Freder, Joh, and Rotwang, but this cyborg cannot survive her own story in order to “rewrite” her own future and/or transform in the manner of the postmodern cyborg.⁴¹ This cyborg still exists in the culture of male domination; she cannot break free of it. The cyborg is unsuccessful in establishing her own life, because her anarchy is too extreme. The cyborg’s status as Other would be enough to condemn her under the Law of the Father, which calls for unification enforced

by sex and gender roles, class subordination, and a hierarchy of dependency. Freder must first fragment and die to the life of his Father's rule before he can establish a unified order of his own and be reborn into the realm of the Symbolic. Freder is able to come to terms with the cyborg's aberrant sexuality only when he learns that she is not the real Maria, when he recognizes that the true Maria would not preach violence to the workers as a means of leveling the status quo of the city. This recognition recalls the image of the cyborg intercut with the images of the castrating Death figure and the Seven Deadly sins. In the scene where the Seven Deadly Sins break out of their stony sleep, all Hell is breaking loose, literally and symbolically, because Hel's fetishization by Rotwang has resulted in a mystification of language and logical form in the form of the Demon cyborg, an invocation of the death instinct. The cyborg may present an image of desire, but she can only bring about madness and destruction for Freder, which for the city means total anarchy. This image of chaos is further reinforced when the cyborg celebrates at Yoshiwara's House of Sin, a bordello and opium den: as the demon cyborg dances around the House of Yoshiwara, she shouts, "Let's watch the world going to the devil!", a line which Lang took from the poet Walter Mehering, "plastered around Berlin in the 1920's: 'Berlin, dein Tänzer ist der Tod!' ["Berlin, your dancing partner is Death!"]" (McGilligan 122-3).⁴² When the cyborg does her shimmy on-stage in this auditorium full of scientists, her dance is a seduction by death. This mirror image helps transform *vis-à-vis* allegorical indirectness the internal, pure, "natural" subjectivity of the hero, since that aspect is the one suppressed by patriarchal science's and political science's logocentric "objective" constraints. Freder is able to reinstate his status in his reified city, and therefore, reinstate his mastery of the city's social and historic domain. Therefore, Freder's fragmentation does not last, because he is introduced at last into the realm of the

symbolic, language, through negotiations with his Father, which re-establishes that old dualistic order again.

A hero's encounter with death is the final stage of his transformation (Bakhtin 163-4). Freder must encounter death by contact with the underworld of the cyborg: her absolute otherness horrifies Freder, causing him to reject her as Abject. Only when Freder comes close to death at the hands of the workers does he recognize that Maria's *real* nature corresponds with patriarchal desires. As a result, Freder is able to save Maria from the clutches of Rotwang, and save the worker's children, who are in immediate danger of dying from the cyborg's plan to destroy the machines and flood the city. Normal genesis and the Law of the Father are re-established when the workers tie the cyborg to a stake and burn her. Normal genesis in this scene is represented in the scenes where Maria is surrounded by the workers' children, in the Garden frames and in the frames where the real Maria is trying to right the sabotaged machinery. At first, Freder believes that the workers are burning the real Maria, and the crowd has to hold him from dashing into the flames after her. As her flesh burns away, the demonic spirit is deferred back to Hell, and to Freder's and to the workers' horror, they discover the duplicity of the cyborg's machine-skeleton, a mirror image of their patriarch's deceptions. Once Freder is empowered and made virile by his conquest of Maria and winning of the workers to his sympathy, he is able to become the mediating heart between his father and the workers: he has re-established his role in the realm of language.

Welcome to the Machine: Joh's Linguistic Coding

The demon, as transformative image, is a *deus ex machina* in Lang's cinematic machinery. Only by invoking a demon through occult programming can Rotwang solve

the problem of vitality, and only with the help of a demon can Lang solve the problem of reifying the city's problems in Maria's image, a common dialectic between the paradisiacal and the demonic/infernal, as Northrop Frye notes (Calvino 53). This cyborg, like James Clerk Maxwell's "demon," is a power of motive force for agency in the direction of atoms in a black box matrix.⁴³ Lang's demon directs the agency of Joh, Freder, Rotwang, and Maria. According to Bruce Clarke, Maxwell's demon is one of the "analogical methods called for the mechanical modeling or concrete visualization of imponderable physical processes...that emerged from different physical system" ("Allegories" 71). Entropy, like this demon, is one such mathematical analogy applied to such thermodynamic processes, and the cyborg, as image, solves the problem of demonstrating both the local and global effects of the entropy occurring at the level of the story's scenarios, to be bundled with the informational⁴⁴ entropy of the film's text. As J. Edward Chamberlin notes, the concept of *en-tropy*, within Rudolph Clausius' original terms, was first meant "to describe the 'transformation-contents' of a system (on the somewhat mistaken etymological analogy of the word en-ergy as work contents)" ("Images" 270). The capacity the demon-cyborg has for processing the heat transfer from hot to cold body corresponds to the second law of thermodynamics, where the breaking apart of atomic bodies produces disorder, entropy, "a measure of the quantity of disorder in a total system, or of the unavailability of the energy in the system to turn this disorder into heat" (Chamberlin, "Images" 271). The Maria-cyborg is given the heat of Maria's flesh, but her own demonic motives tend toward disorder and mayhem: she emblemizes the disorder of the entire system of Metropolis, as well as revealing that she is singularly unavailable as a means of turning her disorder into the work of controlling the Hands, as Joh and Rotwang find out the hard way. The structural aspects of informatic entropy within the image of the cyborg provide a matrix

where thermodynamic entropy mirrors the implosion of linguistic meaning in the emblem of feminine hysteria.

The sublime machine as demon is a trope for the silence and heat death of the grave, of universal entropy as root metaphor, a trope that is consistent with Expressionist themes of apocalypse. Metropolis, as a reproductive atomic machine consisting of the motive molecular power of human flesh combined with an awe-inspiring technology, is a sign of that social machinery that must finally experience death and rebirth in order to transform it, and it is a transformation that can only come about as a re-arrangement, a bringing of chaos, to the existing order and its logic. The atomization of Maria's body gives the clue as to how, part for part, she measures up to represent the demonized city. Metropolis is also a linguistic machine, an allegorical sign for the modern confusion of language itself. The illogical nature of the trope itself works to reveal how this rebirth occurs in language itself, the Tower of Babel where the hegemony of language is scattered so that it can reform as a multiplicity.

As Hazard Adams points out, "tropes are regarded as the deviation from [the logical form of language as fundamental form] in a direction...that distorts logical form," where "the greater the tropological distortion (the greater the 'destruction' of language toward 'silence,' which is the silencing of logic and reflection) the better" (351).

According to Von Harbou's novel (on which the film is based), Rotwang states that woman must have been the first human created (Huyssen 226-27), which in part explains why Rotwang made a female robot instead of a male one. In this case, in Maria's use of the Tower of Babel as the typological allegory in which she couches her sermon in for the workers is further reified as a transcendentalist view of feminine discord implicit within the structure of all things, including language and its logic. "Whenever we construct a system

of thought to unite earth with heaven, the story of the Tower of Babel recurs: we discover that after all we can't make it, and that what we have in the meantime is a plurality of languages" (Northrop Frye, qtd. in Hazard Adams 283). In this case, neither Joh nor Freder can eliminate the plurality of mediation in language; woman's presence is necessary so that they can avoid the reconstruction of the Absolute Subject, the cyborg, as *Übermensch*, the result of an absolute inversion and final implosion of their logic, according to Lacan's estimates of this "unthinkable" gesture (385). Woman in this film becomes an emblem for the annihilation of logic through the culture of language as an unmediated vision of plural values, an anarchist who produces a new order and systems of control, and the border mediator between mystical thought and logical articulation.

This cyborg is that borderland between life and death, one that inspires terror precisely because she was conceived in defiance of death, and one who brings death with her in her reverse, perverse logic, a logic that is specifically inhuman in both its mechanical generation and its demonic power. As a Maxwell's demon, the Maria-cyborg is a lever for change in the narrative, a synecdoche that represents both city and individual transformation, but also a mirror image for the individual struggle Freder has in discovering his own individuality; as a trope, Maria and the cyborg are metaphors for the role of language in this transformation, language as a machine technology and as a human construction. In the film, Lang portrays the creation of the cyborg from the cloning of Maria's body; the camera even catches this process atomistically, showing the quick cell growth gelling over the skeleton of the robot body. The atomic cell growth demonstrates the mechanical aspect of the human in its most complex organizational state, going from the zero of equilibrium to the highly organized state of human being; in addition, the atomistic cloning of human tissue onto the robot constitutes a breach of scientific ethics

(like the Frankenstein story) and how the city itself has been “made.” With the impetus of political and scientific manipulation, the cyborg’s construction is made a reality, demonstrating the fragmentation of the city as it confronts its mechanical possession. Since the mind, spirit, and body of the cyborg are separated by irreparable gaps, we can see that the city itself cannot reconcile its fragmented political factions--the Mind (administrators) has lost its soul (the church) by enslavement of the Body Politic (the Hands). This fragmentation is the atomization and subsequent commodification of body parts, which the audience sees in Lang’s focus on Maria’s swivelling body as Joh displays her to the scientists.

On the level of authorial control, Lang can use the cyborg in order to transform the situations of the other characters through the very image of the cyborg: the cyborg is a mask for the struggle against convention. Taking on Maria’s essence allows the demon cyborg to move about with relative freedom under the guise of virginal Maria’s image, a perfect mask for her depraved deeds, while accessing the pleasure so multiple sites of sexuality. The worst she can suffer is destruction and go back to Hell; the best she can achieve, as demon, is to corrupt as many souls as she can *via* Yoshiwara’s House of Sin, and take as many souls as she can with her back to perdition; certainly she is not afraid of death. As demon, the cyborg is a negative connotative image, a demonized body politic, a dialectical antithesis to the thesis of patriarchy. In accordance with Hazard Adam’s theories on mythological figures, I am arguing that the cyborg is also a mystification in opposition to what is known, what is orderly, and the mythic center of the totality of a known universe, becoming therefore a container/circumference of all its possibilities (326). The cyborg is therefore a synecdoche for Metropolis and its identity, which is centered in

the patriarchy of Joh and Freder as Masters who must regain control of the symbolic, linguistic codes of their city.

As alienated agent engaged in an optical political matrix, the cyborg is not only iconographic, but also contains the coding of patriarchal tropography, an active deconstruction of the inside/outside dialectic, both in the context of the film's individual constituent agents and the textual heuristics of the film itself. The cyborg represents a subversion of patriarchal language, but one which must be quelled at all costs. Both Maria and her cyborg twin engage in the subversion of the existing patriarchal codes, where "literature creates meaning precisely by placing meaning in jeopardy," functioning as a disturbance of semantic and ideological systems, thereby originating "the invention of new ideas, and ultimately, new domains of knowledge" by providing "a space in which resistance can be mounted against the totalizing power-effects of technocratic modernity" (White 269). Maria Assad theorizes that according to Michel Serres, the "noisy" agent, one which "makes waves" and acts as such a deconstructant of the inside/outside dialectic, constitutes a reified heuristic, a tropography, which acts to "circumscribe a 'tropological space' where chaos brings forth order..." and is "a black box examined by the reader as to its output" (Assad 278). According to Bruno Latour, "the word *black box* is used by cyberneticians whenever a piece of machinery or a set of commands is too complex," using the model of a black box to replace it, reducing it to its function of input/output of work (2-3). The cyborg, within its mechanical frame, is programmed by Joh to perform work for him, to control the workers, so she is a set of codes as well as a device. The cyborg functions in the black box matrix of Metropolis to act like a series of Chinese boxes, sets within sets within sets, infinitum: in this case, the motive power of the demon is a cog in the wheels of Metropolis that is unaccountable to mechanical manipulation, a

gremlin throwing a monkey wrench into the cogs of the city machinery. Her mystical Quabbalistic origins demonstrates the disappearance of the original sets of codes that really motivate her actions, the paperwork behind the image of her concrete material being.⁴⁵ The cyborg as a black box machine/matrix, as allegorical figure, organizes itself as the Maxwellsian demon within a transitional mode of transformation for Metropolis that moves from its bifurcation scenario (the Maria/demon doubling, as well as the movement from order to chaos) to boundary function of the demon figure as subliminal fluid state mediating between spiritual and material planes of existence, and finally to a mode of transformation for the city through her bodily replication of Maria. According to Bruce Clarke, these three scenarios overlap each others' paths at various junctures in the metamorphic transformation figured by the demon (*Allegories* 104). The cyborg must mediate between petrified nature, which is the phantasmagoric fetishism of the cyborg as commodity, as well as the mythic historical icon as fetish (as in Hel's totemic statue and the cyborg's material existenc) and transitory nature, which is the symbolic mythic wish image of Joh, Rotwang, and Freder.

Luce Irigaray situates this symbolic mythic wish image as the result not only of masculine fantasy, but also of the history of philosophy as mimetic networking process of "*imitation, specularization, adequation, and reproduction*" that has been privileged throughout human history, resulting in "latency, suffering, paralysis of desire" as the effects of enforced hysteria (131). Hel's position is silent and invisible, and the projection of her absence as need by Joh, Rotwang, and Freder indicates the paradox of initiation into the Symbolic. Hel is silenced first by sacrificing her life in Freder's birth. Then Hel is metamorphised by her commodification, particularly in the fetishism of Rotwang, who attempts to recreate the dead woman, a product of his labor to produce a "phantom-like

reality,” a sublimation of his desire that is “*transcendent* to itself, *super-natural*, *ek-static*,” but where the commodity has no reflection of its own (Irigaray 174-5); it has no identity of its own to mirror. The interaction of family relations (Joh and Freder, and subliminally, Hel) are intermediated by the demonic plots of Rotwang via Maria and the cyborg, where their struggle becomes the transformative catalyst for Metropolis itself, through tools, weapons, artifacts, and language, a repetition of mimetic coding of input and output of the female body. Indeed, the question is, does the Maria/Hel cyborg “put out,” and for whom, and why? The phase space of the body becomes politicized as a battleground for discursive play and political manipulation. In the case of Metropolis, the body these men are still fighting over is Hel, since she was their Aphrodite,⁴⁶ the most beautiful woman of their world. Although dead, the commodification of Hel’s body by an insane Rotwang, manipulated by Joh Frederson, results in the replication of Maria’s body.

Thermal Agency and the Perfect Engine:
Lang’s Cyborg as Reproductive Repetition

Metropolis is the black box where desire hides behind a mask of mechanical conventionality. When the cyborg rises through the ethereal mist for the scientist’s exhibition as Venus, she is born from waves of turbulent flow, disrupting the smooth operation of the mechanically efficient Mind/Body relationship: while the Minds believe the operation is symbiotic, they neglect care of their Body Politic, and this imbalance, primarily a throwback to medieval feudalism, leads to the overthrow of its Chain of Being. The electronic Venus, the Maria-cyborg, is merely a reflection of the demonization of the Body Politic, an emblem for male desire, which Lacan notes is the desire for empowerment of identity through language that underlies all societal and cultural façades

constructed for the sake of civilized living, a reaction “between the *Innenwelt* and the *Umwelt*,” where “this relation to nature is altered by a certain dehiscence at the heart of the organism, a primordial Discord betrayed by the signs of uneasiness and motor uncoordination of the neo-natal months,” an intra-organic mirroring that is experienced by the individual as a temporal dialectic “that decisively projects the formation of the individual into history” (384). The use of the Venus image appeals to a popular iconology⁴⁷ that has its mythical appeal already established as a typological allegory of the birth metaphor: as he noted, “words have become impoverished in our time...they are like worn-out coins, it would probably have been impossible to describe a *visionary beauty* like Botticelli’s Venus in her shell, *before* it was created on canvas” (qtd. in Eisner 401). This statement indicates that Lang was conscious of this image as capable of multiple narrative potentials for writerly intention of content, metanarrative signification, and audience empathy. Lang developed this image in the auditorium display of the Maria-cyborg in the interest of portraying an emblem of chaos important to the suspense of the narrative, a statement of the explosive potential of Modern times, and a sign of the process of becoming for the era itself.

This chaotic stage of development is crucial in determining whether the individual progresses into the entry into human history through the realm of the Symbolic, or whether the individual stays within the mode of mirror misrecognition to the point of complete inversion of the ego, perhaps even regressing from mere narcissistic neurosis to complete psychosis, the inability to recognize reality. The configuration of Venus maps the noise created by the ego’s struggle. This configuration of Venus is a distinct type of hierarchical/geometrical/architectural figure, whose calm demeanor is a mere illusion of beauty “thereby aesthetically validating what appears to be a string of negative

connotations,” a mask hiding the turbulence of her motives, “she who makes noise, creates furor and turbulence; she who stirs up trouble creates smoke screens, makes the ashes and the dust swirl...until all contours--including her own--all forms and order have broken down, the foundations dissolved, the abyss laid open” (Serres qtd. in Assad 282).⁴⁸ The “abyss,” in the case of this film, is the underground home of the Hands, where output is the production of work, an “outside” means of production posed to the “inside” manipulations of the Mind, especially Rotwang’s mind.⁴⁹ In addition, the inner politics of Maria’s body, representative of the Hands, is not only a means of production, but reproduction of the Master Race, an ironic stab at that Nazi politics of genetics that would see its apex a few years later when Hitler asked the women of Third Reich Germany to reproduce children of Arien purity.

Maria’s doubling effect is part of this dialectic of inside/outside that reveals her as a reproductive machine at the beginning of the film when she brings the children into the Garden of Pleasure and when she saves the children near the end of the film, as well as the perversion of the natural process of childbirth when Rotwang creates the cyborg. Lang’s message is clear: it is wrong to upset the balance of nature by attempting to replace human beings with mechanical copies, for a number of ethical and logical reasons. To create with the idea that the created object is to produce something (work) is a form of control that excludes free will. The mechanics of the dialectic of inside/outside topography is the reified allegory of the “miscue at the dawn of Western episteme [which] informed our scientific and philosophical knowledge within the *double limits* of a mechanics of solids and dialectic reasoning, [which]... splintered its totality by exclusionary gestures that produce strife, competition, and poisonous relations among the various fields of expertise” (Assad 295, n. 6). Irigaray confirms this idea as “the avoidance

of excessive inflow/outflow,” an excitement generated from “the Other of desire, the search, at any price, for homeostasis” posed in “the reduction...in the machine, of the effects of movements from/toward its outside” (115). This “overflow” of the Maria-cyborg will result in the breakdown of the machinery of the city, generating the chaos and destruction of the deluge, the “overflow” of Joh’s and Rotwang’s own fountains of knowledge, technology and power, the “second nature” of the marginality of language which slips its moorings to wander at will, the grounds for the diagnosis of hysteria.

To produce the cyborg as a means of reproduction upsets the balance of natural generation and selection, again taking away free will and replacing it with a set of programs. Cloning implies a genetic implosion, a repetition of genetic codes that inevitably ends with the degradation of genes and leading to the degradation of species. As Bruce Clarke indicates, the initial “splitting” off that occurs in the transformational doubling within the daemonic metamorphosis allegory is the bifurcation scenario that arise “within systems shifting from order to chaos” (*Allegories* 104), moving to boundary function (demon as medium between the divine and mankind) and to phase transition (bodily transformation of the city). As William Leiss states, this stage of development is a reversal of master-servant relations (150).⁵⁰ Whether the cyborg functions as an instrument of good or evil depends upon whether they are more human or more machine. More machine than human, the Maria-cyborg is a symbol of degradation of organic forces. Because she is the result of Rotwang’s meddling occult arts in his attempt to bring back Hel to the living world, she is an emblem of the repetition of death and deathliness: in the violation of the border between life and death through a purely chemical and mechanical processing, Rotwang “produces a reverse effect and draws the living into the realm of the dead” (Leiss 158). The cyborg, as agent of change, “implies reversible transformations *in*

a closed circuit, while discounting the variable of time, except in the mode of *repetition of a state of equilibrium*” (Irigaray 115). Left unchecked, the Maria-cyborg would have certainly destroyed Metropolis.

Death is the ultimate state of complete alienation for all persons, the state of the Other as an absent referent. This zero signifier must represent the unconscious itself as inside posed against the outside exteriorization of the reified body, “or else it risks subverting the entire discursive economy...the tendency toward self-destruction of repetition” [the death instinct or drive], where death as image functions “as a condition of remaining indefectibly ‘subject’ ” (Irigaray 115), the final tendency toward en-tropy, the absence of tropes altogether, the ultimate state of the Other. The metanarrative heuristic level of this tropographical cyborg is the architecture of noisy interpretive power of audience participation in gazing at the cyborg image, which Lang manipulates in Joh-like fashion politicizing the site of the cyborg’s body as demonized city and woman, dominated by the patriarchal logos of the gazes of the male characters of the narrative, the male director who created her, or the predominantly male audience.

This double homology functions to disrupt the city and her audience by upsetting the balance of originary genesis and experience of sexuality, in defiance of modern civilization and modern perception of self-identity, which is portrayed by the Venus image (the desire for death in eros) and Freder’s subsequent re-birth into the patriarchal Symbolic order. As Hayles notes, “standing at the threshold separating the human from the posthuman, the cyborg looks to the past as well as the future...amalgams of old and new” (“The Life Cycles” 322-23). This double homology also functions as the double deception of ironic portrayal, where Lang’s authorial intention was often misunderstood within simple literal terms. The double irony of “*la belle noiseuse*” as image is that while

she is a figuration of chaos itself, she is “chaos at the core of order, and order within chaos” (Assad 283). The Maria-cyborg is a typological allegorical figure for Hel, the Scandanavian goddess of death and chaos, who is traditionally coupled with Holda, the Earth-goddess, the typological allegorical figure in Maria. While the cyborg attempts to overthrow her patriarchal coding, she is not successful because it would mean the end of what is considered orderly according to the patriarchy of Joh/Jehovah, upsetting the balance of nature by disrupting genetic integrity and natural birth (which is why Maria must save the city’s children from the deluge caused by the cyborg’s destruction of the machines), and upsetting the balance of society by destroying the superstructure of the city’s economy. Maria must be brought back to the fold in order to assume her role of reproductive factory for Metropolis.

Ironically, when Death and the Seven Deadly Sins are let loose from the Cathedral, they act as emblems of change, too, because they drive Freder to find Maria once again through his fear of Death. When he discovers his father’s duplicity and notes that Maria would not preach violence, the Hands almost kill him; only the interference by another worker in Freder’s defence saves him. This “deluge” is overspill of the emotions of the workers, goaded on by the cyborg: “the implacable flood they cause is a striking visual parallel to the escape of pent-up emotions” (Jensen). The flood is a mythic recall of a typological allegory couched in the overall montage/reification allegory of the film’s narrative, of the original myth of the flood being the result of God’s wrath, an apocalypse that will transform Metropolis’ world without completely destroying it, yet sweeping away the evils associated with technological controls. The flood is itself the instrument of God, just as the cyborg as demon is: evil becomes the tool of the good, since she is the “overflow” of God’s generosity of knowledge, yet marginal and secondary in nature to his

purpose. This reference to the deluge indicates that like Noah's world, the world of Metropolis will get another chance to rebuild itself. Freder's final showdown with the crazed Rotwang comes about because the scientist believes himself to be dead and in the realm of Hell, and so goes in search of Hel, mistaking Maria for the dead Hel, an indication of a disposal of the old world technology "progress."⁵¹ When the Maria-cyborg is burned at a stake, the final vestiges of her mask are burned away to reveal the machine of chaos personified, the excess of inflow/outflow to be avoided. Ironically, Maria's "becoming" is also halted for the benefit of Joh and Freder, which in part explains why Lang believed the ending of the film to be "false" (Eisner 80); if the cyborg is halted, then the progression/regression of the city itself is halted. No new growth can take place in this matrix, despite Lang's hopeful conclusion in this film.

The cyborg as unassimilable force disrupts patriarchal paradigms of economy. For example, marriage and love, government and work, are paradigms that the production of the cyborg deconstructs. As woman, Maria is dominated by these paradigms; however, when her image is cloned onto the robot, she becomes an unassimilable force outside of the *Lebenskraft*, the unity and organization of patriarchal society, of the Mind (*Geist*); *Lebenskraft* becomes the "causal agency, responsible for generating, directing and sustaining the arrangement of living beings in contrast to purely physical and chemical processes" (Smith 74). As the pure abstraction of *Geist*, the cyborg has no force until combined with the flesh of Maria and the mechanical frame of the robot; she represents a disruption and deconstruction of the *Kraft* (force) or *Swang* of the German transcendentalist *Naturphilosophie* which necessitates the separation of bodies in space, resulting in the Mind/Body split that stratifies the classes and the sexes in Metropolis. As perfect combination of Mind and Body, the cyborg becomes an ideological monster, a

perpetual motion machine and thermodynamic engine contrary to the laws of nature, an ontological episteme that demonstrates its own deconstruction.

The cyborg as thermodynamic engine can run indefinitely, but the evil spirit that inhabits her body emblemizes the desire for death, an “uncertain intermediation” that is an “uncanny or disruptive supplement, the noise or excess infecting or reorganizing transmission in matters of reason, cognition, writing, self-identity, desire,” “not an essential power [like Freder or Joh] but a differential effect, a knot or loop produced by and lodged within writing itself, tied into the text of any structural system, the daemonic both exists and does not exist” (Clarke, “Allegories” 69). Her chaos emblemizes the idea that the perfectly progressive man is a dead one, since to transcend the limits of the body is to assume spirit form. Death is the necessary stage for this metamorphosis.

The Cyborg's Zero Programming and Transformative Demonization

For *Metropolis*, the cyborg is an emblem for an incomprehensibility of the nothingness of chaos embodied in a female, an image constitutes the zero programming of the Maria-cyborg as a figure for the castration complex fear and the Death Drive, a fear that is manifested in the film as the image of the Grim Reaper, a figure that advances upon him in an intercut scene with the introduction of the Maria-cyborg in the auditorium. Only by giving the demon a female form can Lang limit its power, that zero programming as mirror to the masculine matrix of power in the realm of the Symbolic, where destroying the female form returns the demon to Hell. Only by giving the demon a female form can Lang also portray the deconstruction of the patriarchal paradigms of unity and order to reconstruct a new utopia. “Like guardians of portals to other realms in ancient myths, the Demon is a liminal figure who stands at a threshold that separates not just slow molecules

from fast [according to Maxwell's and Thomson's theories] but an ordered world of will from the disordered world of chaos" because "one one side is a universe fashioned by divine intention, created for man and responsive to his will; on the other is the inhuman force of increasing entropy, indifferent to man and uncontrollable by human beings" (Hayles, *Chaos Bound* 43). As Hayles explains, the figuration of Maxwell's demon mediates and clarifies "this ambiguity... [between] the relation to humanity to an entropic universe" (*Chaos Bound* 43); thus, Lang's demon is a kind of Maxwell's demon, the allegorical agent/mediator/ transformer for the whole cosmos of thematic and structural system of Metropolis, but she is one which is trapped in the matrix of patriarchal desire. The allegory of the process of living and dying is part of the phallic gaze scenario, transformed from mirror stage of individual development to the Symbolic realm, the machine technology of linguistic coding, where the machine of the body functions as an emblem for these psychological processes. Freder, as subject, must learn to recognize the Other of his desire as a ratio of phallic power that is missing. The feminized, fetishized Other, whether held through the guise of Hel as Freder's dead mother, Maria as object of desire, or the Maria cyborg as chimerical object of dread, "becomes a memory from outside the space of the text which haunts the male central character" in Lang's films, and "the threat surrounding the figure of Maria is very explicitly a threat against the Law of the Father" (Jenkins 40, 83).⁵² The idea of displacement is implicit in the idea of the Other as fetishized object of desire, as commodity for use by the state, and is revealed as a function of the Mirror Stage of development of Freder's consciousness in this film; the Other is the sign of the displacement of identity. Furthermore, as Claudia Springer states, "according Freud, when we have an uncanny (*unheimlich* [unhomely, alienated from the home, especially the womb as home]) response to something, we are feeling the

simultaneous attraction and dread evoked by the womb, where we experienced our earliest living moment at the same time that our insentience resembled death,” and “that we are constituted by a death wish [drive] as well as by the pleasure principle” (Springer 59). This death drive is a spin into nothingness, held in check by instincts of survival.

The cyborg as Other is nothing, a reflection of male desires, an alienation, a silencing by male authority. Lang’s ironic message is itself one of revealing the lie of transcendence: one can never grasp the hand of God directly, as in Michaelangelo’s creation scene, and within such a scenario, the Nothingness of desire is part of the demonization of language itself, where God is the incarnation of meaning (Hazard Adams 369). Language as code becomes a dialectic of speech and silence, where the silence of the cyborg is reinforced by her role as a tool of the city Father, Joh. Sanctioning by the Word of the Father is a purely conventional coding, convenient for male domination, and the broken parts of the city are thus effectively represented in the fragmented identity of Maria through her bodily doubling. The parts, according to that patriarchal code, must come back into alignment with the Father’s sanctioning under the control of the Father/State, *Der Vaterland*.⁵³ The cyborg Maria is a re-created composite of parts reveals that her physical and symbolic deconstruction must take place in order for this civilization’s order to be maintained.

The patriarchal coding of Metropolis is upheld through that magical objectivity with which its male dominators can justify their actions. In this film, the cyborg does indeed divide and therefore conquer some phallogentric biases which have resulted in her objectification, and these biases are based in identity constructions that seek to unify themselves through persistent cultural constructions such as gender and class. However,

because this cyborg carries some heavy metaphysical baggage, she cannot survive the Laws of the Father. Haraway refers to this coding as the site of zero:

Every story that begins with original innocence [like Freder's and Maria's] and privileges the return to wholeness imagines the drama of life to be individuation, separation, the birth of the self, the tragedy of autonomy, the fall into writing, alienation... . These plots are ruled by a reproductive politics. ...But there is another route to having less at stake in masculine autonomy, a route that does not pass through Woman, Primitive, Zero, the Mirror Stage and its imaginary. It passes through women and other present-tense, illegitimate cyborgs... (Haraway 177)

The “zero” reflection is the negative to the positive definition and identification of masculine coding of mirroring. Only occult coding can raise the demon to animate her, but it, too, is negative. As Clarke explains, when absence occurs as a disappearance (as Maria does), this disappearance as absence constitutes a metamorphic transformation in transit, where signs of repression are occurring (71), as in Maria's political and subjective suppression, but also as a sign of Freder's repression and control by Joh. Maria's disappearance shows that her identity itself is *stolen*, not misplaced or even simply repressed; when her form is given to the robot, its form becomes “the monstrous misapprehension by which the repressive state abuses its citizens” (Clarke, *Allegories* 71). Joh reduces Maria's form to a circulating commodity by which he thinks he can control the workers, but the appearance of the demon means that the sign is a double negative, woman as absence from man and demon as absence from Jehovah; these absences mark Freder's absence from Joh, caused by his fascination with Maria.

The double negative cyborg is a cypher, working as an allegory of complete alienation for women and men alike. Furthermore, the infrastructure of this cyborg is purely mechanical, a representation of the evils of technology, one of Lang's themes of

modern degeneration. William Leiss indicates that the sublime machine is the expression of that ambivalence between terror and attraction, and that such iconography embedded in the machine “becomes the symbol of degeneracy itself” (147), and that this allegorical schema “is composed of three levels of metaphorical construction, internally related to one another, which proceed from the ‘surface’ realm of familiar social experience to the ultimate duality of life and death” (149).⁵⁴ As Chamberlin notes, such an ambivalent image is typical of the reification of the city within the image of a diseased or demonized body (Chamberlin, “Images” 270). In this case, the two wrongs make a right, just as two negative poles reject each other and result in the void that marks entropy.

This scenario of disappearance and re-appearance signals “a consummate allegory for the death drive of repressive states, specifically, for the problem of disappearance as political strategy or state policy,” since “dissenting persons are misequated with erring drives and literally written off” (Clarke, *Allegories* 71).⁵⁵ The disappearance of Maria must occur for Freder’s transformation from dissident to “heart” to take place. The audience sees two disappearances taking place: the placement of Maria in the cocoon-like covering when Rotwang clones her flesh onto the robot; and Freder’s “disappearance” into his dream-state when the Maria-cyborg is put on display for the Minds. As Daniel Tiffany states, the trope of the chrysalis is significant for metamorphosis/change in the Freudian theory, but Karl Marx also referred to the chrysalis stage as part of the animation-revival of dead artifacts: Rotwang’s attempt to revive Hel is an enchantment “by the projection of human labor,” a value transformed by the capitalist, whose incorporation of “‘living labor power into their dead substance’ ” transforms “past labor in its dead and objectified form, into capital, into self-expanding value, a monster quick with life, which begins to ‘work’ as if love were breeding in its body’ ” (Marx *Capital* qtd.

in Tiffany 76). Necromancy is necessary in the art of transformation of the chrysalis stage, since the chrysalis becomes “the site and the *image* of metamorphosis by considering more carefully the allusion (implied in the trope of the chrysalis) to an object, a living object, that changes from one state of existence to another...from mundane to ‘sublime’ ” (Tiffany 77). The splitting off of meaning in the confusion of this mirror stage of identification is negative because it establishes what the identity *is not* and cannot be. If the logocentric coding of Maria’s designation is as Victorian “angel of the house,” then her mirror image must be a demon; however, this demon, as mere opposition of the angelic Maria and the ghostly image of the dead Hel, as mirror image, will “merely recreate and sustain the discourse of power” (Alcoff 379),⁵⁶ because she is not *completely alien*, beyond the understanding and control of patriarchal coding. Therefore, Maria and her cyborg must be effectively silenced.

An essential part for understanding the occult sections of the film was edited out for the American release: in the original cut, Rotwang releases Maria in order to unmask the cyborg. Andreas Huyssen discovered that in the novel, Rotwang actually goes so far to explain the creation of the robot: “By creating a female android, Rotwang fulfills the male phantasm of a creation without mother; but more than that, he produces not just any natural life, but woman herself, the epitome of nature. The nature/culture split seems healed” (Huyssen 226-27).⁵⁷ The homology of male projection orders woman as one of its technological objects to do the work of fulfilling that longing to subsume the Other. Again, this homology, as desire to bond with the Other, is implicit within the metaphor of the Body Politic of the cyborg as part-human, part technology, a desire for a transcendental anatomy in which an ideal type subsumes the multiplicity of fragmentation. Leiss notes Thomas Carlyle, who stated, “Men are grown mechanical in head and in heart,

as well as in hand” (qtd. in Leiss 150), a major concern of the Modernist era. Freder as “heart” is that subjective Other who is supposed to mediate between work and ideology, between the mind and the hands. Like the subject/object dichotomy, the nature/culture dichotomy is not solved, as the symbolism of the mediation between hands and mind with the heart intends, and for *Metropolis*, this nature/culture dichotomy also occurs as the split between myth/antimyth.

As Hazard Adams points out, the subject/object dilemma is at the mythical pole of identity, while the discovery of the world’s externality is antimythical, the structure of scientific metaphors as fictional models of phenomenal *modus operandi*: while Freder struggles for identity (the mythic Oedipal complex), he comes into contact with perfect identity and unification of the fragmented ego, the antimythical cyborg as perfect, knowable, passive object for observation and control by science and technology. However, the cyborg itself operates as a structural projection of that identity struggle, paradoxically an agent for both myth and antimyth, nature and culture, and Rotwang’s desire may well be “the scientist’s desire to return to a pre-antimythic condition, the place of myth, the origin of making” (Hazard Adams 333-5). The theme of making is identified by the emblem of the hand in this film, the means of production, whether for underground workers or for the scientist, all tools for the capitalist Joh Frederson. His location technology as warrant is an attempt to make the perfect citizen, to keep the workers from revolting, but Rotwang’s science has a different warrant. Rotwang wants to manipulate the “phantasmatic space” called into being for the purpose of state warranting for his own purposes, to take advantage of Maria’s physical spaces of pain and pleasure. Rotwang and Joh assume they can control their “culturally intelligible body” as a “socially apprehensible citizen,” but as Sandy Stone notes, this body is a legible body, a discursive,

“textually mediated physicality” that “displays the social meaning of ‘body’ inscribed on its surface, presenting a set of cultural codes that organize the ways the body is understood and that determine a range of socially appropriate responses” (399). The cyborg is not a computer, however; she is programmable, but since her body is occupied by a demon, she overrides those codes.

Most audiences probably do not notice in one viewing that Rotwang has a mechanical hand. In the East German reconstruction of the film’s original narrative, Rotwang talks about the robot as the “new Hel he has created, being worth the loss of his hand” (Jensen). In the scene where Rotwang is exclaiming that all his robot needs is a soul, he thrusts his mechanical hand in the air, while Joh Frederson steps back in disbelief and horror, not only concerning the perversion of the cyborg as demon, but of Rotwang’s own demonic transformation, for which he knows he is responsible for the turn of Rotwang’s twisted mind. Lang’s implication here revolves around his original interest in the parallelism between science and mystical religion and worship of technology and its subsequent evils: Rotwang is a material emblem for the mechanization of man, his hand the symbol of the mechanization of the underground worker “Hands.” As Anson Rabinbach notes, the argument for the Modernist age, especially in Germany, was that the *human* body was no longer a productive force, a conservative sociological theory that was consistent with the French Marxists and German conservatives: machinery was supposed to alleviate the suffering of workers (298-299). Instead, people found that machinery was actually replacing them in the work force, negating their identities within economy altogether. Rabinbach calls this phenomena in the German economy of the Modernist period the “idea of the disappearing body,” where “the automation controversy was a discourse of displacement [and hence, alienation]: industrial work, in its traditional forms,

faced extinction; the working body was no longer the human motor” (299). The displacement of Hel and the “fragmentation” of Maria’s flesh in the body of the cyborg implies a refusal of the state mechanism’s warranting codes. Because Maria’s subjectivity is shown to shift from one identity to another, I can extrapolate Hel’s disembodiment as the means of freeing herself from the domination of Joh, Rotwang, and Freder. Maria, however, does not escape their codifications, since at the end of the narrative, she continues to live.

This message is obvious in the figures of Maria and her cyborg twin, the workers who are fed to the Moloch-like machinery-god of Metropolis’ underworld, and the insane Rotwang, whose sorcery has resulted in the replacement of the reproductive “work” of the natural woman with an informatic and image-centered copy of her. Rabinbach warns that the reading of the material body being replaced by information and image-based society ignores “the ideological and cultural dimension of the ‘materialism’ and the centrality of the body in nineteenth-century thought” (299), but that concerns nineteenth-, not twentieth-century, thought. For the city, the accelerated rate of alienation of all of the characters, including Joh and Rotwang, demonstrates that degeneration of the culture has occurred at the site of the Mind’s control. Rotwang’s loss of “Mind” occurs in his applications of applied science, as a technology of the “Hands,” resulting finally in the loss of his humanity through his objectivity, as well as his life. Joh, likewise, has lost “touch” with the reality he has thrust upon his city by inverting his ego to the point of tyranny, likewise losing *his* humanity. The sorcery involved with the panoptic control of science and policy has marginalized the body and its functions to a negative status. Evelyn Fox Keller argues that this masculinized “culture” distances the male scientist from feminized “nature” and its functions (including reproductive capacities), a dialectic that

forces “a choice between love and power,” thereby designating “the equation between knowledge and power a sinister one, and at the same time allows objectivity to become contaminated with domination” (116). The dominant practices of the technosorcerer Rotwang force the demon to earth, an attempt to force the marginal spirit to do his bidding. The magic of making an image symbolic is one such reanimation that is a sign of metamorphosis in the Marxist economy *and* the Freudian interpretation of the individual male’s Oedipal complex, combined as part of the Dynastic metamorphosis plot in *Metropolis*, all through technology.⁵⁸ The Maria-cyborg, her demon conjured up the necromancy of Rotwang’s commodity fetishism, is encased within the chrysalis of patriarchal codes of Metropolis: the father Joh, the son Freder, and a “ghost” (Rotwang), whose fetishizations of Hel’s memory end in the liminal transformation of the demon to flesh; these codes, likewise, are encased within another chrysalis, Christian theological codes, that envelop the entire city, so that the local codings reify the universal ones.

The cyborg, as a mirror projection of such desires, is a revelatory image of the desires of three different men, all of which hearken back to Hel, whether as mother or as lover, within a triangular relationship between state, war-machine, and family.⁵⁹ As Sandy Stone states, “power is expressed in new ways, as disembodied voices, backed up by a more elaborate system of iconography,” where “agency, icons, bodies and desire” are situated in the same site, the body of Maria (Stone 400). As Stone states, this virtual system of power operates “on sets of assumptions that are already in place--one of which is that humans act at a distance by delegating their agency to someone or something else that has the freedom to travel out of their sight, and if we follow that agency back far enough, eventually we can trace it to the original human’s physical presence, where the

buck stops” (400). The original matrix of the dynastic⁶⁰ family of power is tied to the matrix of the state in the figures of Joh, Freder and the absent Hel.

Rotwang’s worship of Hel was part of the original screenplay, and Lang went so far as to include Hel’s story as an explanation for the absence of Freder’s mother and Joh’s wife, only to exclude it for the final cut, as shown in this frame where Rotwang has constructed a huge memorial sculpture of the dead Hel’s head. Implicit to this imagery is the idea that the adult man sees the female as the ideal primitive form, as shown in Figure 4.1.⁶¹ Rotwang, as figure of Expressionist scientific embrasure of the primitive, only wants to possess the woman Hel as part of masculine primeval possession for women, a sex tool and toy, the site where the battle between men promotes the progression of strength and intelligence of men; by their struggle (especially the struggle between Rotwang and Joh Frederson), “civilization evolved and continued to progress” (Siegel 204).



Figure 4.1. Rotwang’s worship of the totemic Hel head (Quinn).

This progress is part of the overall organizing power of degeneration and regeneration as transformational process, that transformations wrought by entropy. However, the ensuing struggle is partly to blame for Hel's death: according to the original novel by Von Harbou, the tug-of-war between the two men weakened Hel, so that when she gave birth to Freder, the strain killed her (Eisner, Flippo). Her subsequent "disappearance" through death is not a finalization in the scenario, but a setup of her role as a phantasm whose trace identity is called upon by Rotwang to return. Hel has been coded in the text through her body by Joh and Rotwang, but dying has only set up the metempsychosis of her image to be recalled to Maria's textual body, which is to be "re-inscribed" with Hel's memory. Like the written text, Maria's body acts as a mirror which only repeats an exterior appearance. The attending discourse of Hel as spiritual sign continues the scope of her role in the dynasty of Metropolis. Thus, Maria's body becomes a mirror of the programming of Hel and the projections of the text written for her by Joh and Rotwang.

Rotwang's mania for bringing back his lost unrequited love serves as a symbol for the danger of meddling with God's role as creator, when Rotwang attempts to "recreate" Hel by bringing the skeletal, mechanical form of the robot together with the genetically cloned flesh of Maria; however, he discovers that he must somehow give the robot more motive power than simply the ability to move. Rotwang's scientific gaze freezes and steals Maria's genetic coding in order to give human form to the Talus-like robot, and this fleshly mask allows the cyborg-Maria to take on extraordinary capabilities. As Lotte Eisner states, "the beams of Rothwang's lantern reveal to her [Maria] the horror of her surroundings, with skeletons and skulls," and Rotwang's "nervous, transition-less gestures seem appropriate to a magician...a seer, outside time and gripped by holy madness" (86). When Joh and Rotwang are scheming together concerning how they will manipulate the

workers, Rotwang remarks that the robot is “almost perfect! all it is missing is a soul!”, to which Joh replies in horror, “You’re mistaken! It is better without one” (Lang). As it turns out, Joh was right, but his greed for power was stronger than his common sense. As the camera pans to the platform where the robot waits, the huge inverted pentagram behind her exposes Rotwang’s plan to animate the robot with a demon, invoked and fed by the blood and flesh of Maria, whose individuality is sacrificed for the good of the state, the Iphigenia of Metropolis. This rare picture in Figure 4.2 shows Lang in action demonstrating to Brigitte Helm his ideas; in the background is the inverted pentagram which Rotwang uses to conjure up his demon:



Figure 4.2. Rare Photo of Lang with Helm and the Inverted Pentagram (Quinn)

While Rotwang wishes to invoke the Hel of his memory, what he invokes in the name of Hel is nothing less than the mythic Scandinavian goddess of the underworld. This huge monument, as shown in Figure 4.1, indicates an overblown worship of a myth of the Triple

Goddess.⁶² This thematic device recalls the cycle of birth and rebirth for Freder, as well as the death of Rotwang and Joh's era of control for the city.

The objectifying scientific and religiously inspired "gaze" of Rotwang result in the birth of a chimera, a blend of death and technology in the form of Woman, whose dialectic of ideal beauty hides a deathly negative sublime, an Abject entity whose very negativity defines absence to the presence of those male progenitors whose separate gazes, in their defined purposes, all result in the birth of a monster. The city has become neurotic in its inverted focus on the Mind, creating the imbalanced stratification between the Mind and the Hands, a gap made wider by the Mind's reliance upon a technology that abuses the Hands. This imbalance produces ill health for the Body Politic as a whole.⁶³ The inversion process of technological alienation produces monsters within and without Freder's mind, where his projections become realities for the demonization of a city that is running on a treadmill of mechanical repetition that must inevitably lose its motive powers. The demon cyborg functions to remind the citizens of this city that to be divided is to be left vulnerable to subversive forces. As Fletcher notes, "since the cyborg as *deus ex machina* derives its power from sublime ideals of fate, the cyborg as reified, demonized mechanism has a protoscientific function as a subversive force": even the name *daemon* "means 'to divide,' ...[implying] an endless series of divisions of all important aspects of the world into separate elements for study and control" (59). The cyborg controls by being controlled, dividing and conquering those who would control her.

Joh's gaze inscribes and defines her role as duplicitous controller of the workers; Rotwang's ubiquitous gaze inscribes the coding for death in the image of Hel; and Freder's gaze inscribes the coding for his own alienation. This triangle of desire formulates a medieval imagery of the Father, the Son, and the Holy Spirit, replaced in modern

thought with the worship of scientific “magic.” In this film, science, as represented by Rotwang, attempts to control forces beyond his power to analyze and categorize: the demon occupies a Quabbalistic realm of natural, analogical (man as the “little universe,” a replica of God), and magical control over the super- or sub-human intelligences of invisible dimensions (Hall 114). The demon’s ability to “disappear” into a seemingly innocent identity allows her to gain temporary control over those who would control her, and for a while, she gains the ability to transform the city itself.

Daemonic figuration is the result of this generation of forms in the underworld where “the ‘magical’ identification of sign and referent results, paradoxically, in the disappearance of the referent as an objective or empirical entity (and, conversely, in the desublimation of the image)” (Tiffany 8).⁶⁴ Death becomes the image of the corpse of Hel resurrected by Rotwang’s cult worship. Freder must kill his old identity and reformulate a new one by descending into the underworld on his Herculean labor of love, but he ends where he began: in the same feedback loop of symbolic culture governed by his father. Only this false ending, a *deus ex machina* in itself, saves the city and gives it a happy ending. The demon as figure is the epitome of the marginal, the heterocosmic “overflow” of God’s fountain of knowledge and language, the “second nature” of a wandering sexuality outside phallogentric control, just as she is the “second nature” outside of the control of patriarchal capitalism. As Clarke indicates, “figuration turns daemonic when the vehicle [in this case, the cyborg] will not stay put but overmasters the tenor, or when the tenor is already the vehicle for a previous tenor, to the detriment of the new vehicle,” becoming at one time synecdoche and personification of an “unsuspected or forgotten tenor” (*Allegories* 14-15). The “forgotten” tenor of this image is the absence signified by the two Hels, the mythological one and the earthly one, the first as typological allegorical

figure and the second as reification of the city's progression towards death. This trope is unstable because it is an overloaded image, overloaded by the significations given by the male personae within the plot of the film, as well as unstable by virtue of the image's function as allegorical agent of cosmic and metanarrative significations given by Lang himself, having both thematic and structural values. As Chamberlin notes, when images of degeneration are used so deliberately, as the demon certainly is, such images emphasize some kind of transformation⁶⁵ (Chamberlin, "Images" 267).

Maria's body presents such a medium for the paradox of degenerative vitality, demonstrating the capacity to swing from one extreme to the other, from virgin to whore, from silent dutiful daughter to outspoken anarchist, from good to evil. Maria's name signifies the ideology behind the iconic virgin Mary, as mediator between God and mankind as the birth mother of the new Modern Christ, Freder. When Joh bastardizes this image, this blasphemy results in the birth of the Whore of Babylon riding the Beast of the Apocalypse as a typical Expressionist allegorical prediction as predicted in the book of Revelation in the New Testament, and her anarchy almost causes the end of Metropolis' world. As mediator/ transformer from the underworld, the demon cyborg is a metamorph, but also an emblem for the process for metamorphosis⁶⁶ of both herself and others.

Katherine Hayles notes that three phases of life cycle correspond with three dis/assembly zones⁶⁷ in such a figuration: adolescence, sexual maturity, and the reproductive/generative cycle in cyborg narratives, all of which the audience witnesses in the character of Freder. As Freder loses the girl, fights to save the girl, and the girl is restored to his domination, he finds himself heir to his heritage in this patriarchal society of Metropolis. By bridging the gap between the natural body of the woman Maria and her manufactured replicate, Freder demonstrates his ability to become self-conscious of his

role and his ability to manipulate the symbolisms of the Word of the Father, a skill necessary for this dominant paradigm.

The cyborg as allegorical device of metanarrative authorial mediation, likewise, is unable to create a new postmodern space, because her role is still objectified and trapped by the both the egotistical gaze inherent within the male return to power, as well as within the patriarchal directorial gaze. Thus, the stand-off between bourgeois and proletariat continues, stuck in the same old isomorphic categorizations set up by Western culture. Lang's own inability to overcome these categories is seated in his own subjective motives. This technique of synecdochal personification goes further than simple application to the film narrative, however; it is an autobiographical story of Fritz Lang's own struggle within the space-time of Hitler's Germany to gain control over his own personal demons.

Fritz Lang's Mask of Power: The Cinematic Phallic Gaze

"Madame Bovary, c'est moi" (Gustave Flaubert qtd. in Calvino 113).

Italo Calvino points out that writing is a projection, more or less, of the "I," the ego, of the writer, using Flaubert's famous phrase to illustrate how the chain of observation from writer to audience rarefies and alienates the writer's intention from the audience, making the ego of the writer "a phantom 'I,' an empty space, an absence" (113), "a projection of a real part of himself or [at least] the projection of a fictitious 'I'--a mask, in short" (111). Derrida confirms this use of the trace of the "I" as an attending discourse, as an endless play of reflection of a presence, which is in fact an absence. In this case, the writer as absence for the screenplay for *Metropolis* is also its director, Fritz Lang. The story of Freder is, in part, the story of Fritz Lang himself, overwhelmed at times with elements of Thea von Harbou's personality; movie critic Luis Buñuel noted in a Spanish

journal that the film “is two films glued together by their bellies” (qtd. in Eisner 91). Buñuel notes that Lang’s narrative contributions to the film were quite different from Harbou’s, “attributing to [Harbou]...the ‘dangerous syncretism’ associated with her own Nazi vision of order (qtd. in Eisner 91). Lang’s own vision focused specifically upon the occult dialectic of good vs. evil and audience reception of his cinematography. In order to understand the significance of the metamorphosis of the director as artist, it is necessary to understand that *Metropolis* is a reflection of his own personal journey to power as director, a journey marked by his marriage to and divorce from Harbou, as well as the struggles he underwent to bring his vision to his audience. However, one must also understand Lang’s vision as an ambivalent one, sometimes focusing upon his audiences’ needs and sometimes for his own needs.

While Harbou seemed ebullient in her intent upon political control through the portrayal of her vision, Lang was reserved and rarely gave interviews. However, on the occasions when he *did* open up, especially in his own articles and autobiography, Lang could be quite convincing and specific about his own motivations, even though critics often misinterpreted his remarks. In his article “Happily Ever After,” Lang revealed that he believed “in artistic rebellion,” since he believed that “new approaches, new forms are needed to reflect the changed world we are in” (qtd. in Eisner 397), since “the film creators are responsible to our own time” (qtd. in Eisner 398). In Lang’s view, films should be signs of their times, just as literary works should be, and as all art should be,” and furthermore, he stated that he considered “filming *the* art of our time and it is therefore only logical that the cinema should be an expression of its time, in other words, ‘reflect its time’ ” (qtd. in Eisner 401-2). In “Preface to Famous Films,” Lang extolled film as a medium by and for the audience, not of the director’s or producer’s personal

visions, noting that “the cinema after all had started in the nickelodeons, and was a collective art” that “represented a new language” (Eisner 401). However, he also believed that the personal vision of the screenplay writer was crucial to development of a visionary message that would appeal to audiences, and began with the writer his- or herself: that the inspiration for ideas “is somehow dream-like, situated between reality and unreality which we have seen with our inner eye,” indeed, as if he was “sleepwalking” (qtd. in Eisner 401, 402).⁶⁸ Lang’s reliance on intuition, he admitted, was crucial to his visionary technique, and admitted that perhaps psychoanalysis of directors might be necessary for others to decide his motivations, since “I had the idea that I did not really know myself,” since his own actions were intuitive, spontaneous, seeming “right at the moment” (qtd. in Eisner 401). Therefore, Lang’s gaze is both intuitive of his own subjective needs while maintaining the objective gaze of the camera lens as silent observer of events.

In the storyline, the scientific gaze becomes phallic and essentializing when Rotwang captures Maria, when the other scientists lust after the image of the cyborg, and when Freder misrecognizes the images presented by the Maria twins. The phallic gaze occurs in two ways here: emblematically and literally. The allegory of the story narrates how objectifying the gaze is, while the viewers themselves literally participate in that gaze.⁶⁹ The camera is the transmitter of that gaze, while the director’s direction in itself is a kind of diffraction, a lens that sometimes fails to transmit its intended message. Lang’s diffractions seem to have been misunderstood by a large number of both film and literary critics, because the lens he chose to use in which he portrayed his characters in this film was warped by his slip into ironic portrayal.⁷⁰ When Freder enters back into the Order of his Father, he reaffirms that old power structure, the one which he was fighting against.

Likewise, Lang's inability to move past Thea von Harbou's overly sentimental ending reveals a slide back into Modernist structuring and utopian optimism, despite his recognition of its flaws later in his career.

Lang may have intuited that his film's ending betrays its narrative. Order does not really change in this film, after all. Heavy irony is presented by the objectification apparent in the scene where the scientists ogle the cyborg Maria: can the audience of the film really believe that anything has changed by its end? Perhaps Lang, like many authors, believed that his audience would pick up on these ironies in the presentation, without any literary narrative manipulation on his part. Alienation occurs between the author of the gaze, who by necessity is blind to but cognizant of the auditorium or living room where the image is portrayed, and the viewer who is looking into that gaze. Furthermore, the act of translation, according to Haraway, is the business of science, where mobility of meaning and universality--of proclaiming general laws from particular examples--becomes reductionist. The reductive perspective is one of disembodiment, of transcendence over bodily constraints, in what Haraway identifies as "the god-trick of seeing everything from nowhere" (*Simians* 189), in their attempt to translate the world. These narratives, too, are simply allegories of the "ideologies of the relations of what we call mind and body, of distance and responsibility" (Haraway, *Simians* 190); thus, the site of objectivity claims a universal position, of omniscience, when actually, this site is simply self-identifying. The camera's voyeurism distances its objects/actors from the audience, just as it alienates the director from both actors and audience.

Scopophilia is the result of a gaze that only objectifies its objects of desire.⁷¹ According to Mulvey, voyeuristic activities are based on scopophilia, and cinema is itself a form of voyeurism (16-17). Alan Spiegel states, however, that the camera is not like the

human eye, because it is unselective in its scope, a “dumb eye” that is a symbol in itself of mankind’s alienation (67-68). Spiegel’s theory⁷² of the alienating affect of the camera is significant, because it demonstrates how Lang’s ability to control this “dumb eye” of the camera lens brings him, along with modern novelists like Conrad, “farther away from the seen object--without losing sight of this object--and closer to the eye of the subject, and therefore closer to the subject himself,” so that Lang is able to project “the fundamental subject-object paradox of the camera’s epistemology...[which] embodies itself in the ocular situation of the observer” (Spiegel 67), a substitution for desire. The negative of film is such a sublime negative, in itself unquestionably the form that posits the trace of a former presence of the actors, the director, and his camera crew, with the film negative the left over result of their efforts and ethos. For this formation to make its metamorphosis, the cinematographic method must use symbols, forms, as models of action. The camera effectively picks up this action through its juxtapositioning of frames, which in succession go to make up the becoming of the film’s storyline. Using Expressionist techniques, Lang is able to express the highest degree of oppositions in the forms themselves to portray the oppositions between the characters involved, thereby mirroring Lang’s ethos regarding the struggles between good and evil, the conservation of energy and life vs. their degradation.

According to Leonardo Quaresima, the Expressionist use of the camera changed the situation of the camera as static observation to that of a kind of intelligent presence unto itself: “the Expressionist aesthetic ...provided the ingredient of subjective experience, which the film medium picks up, warping interior space to resemble exteriors, but also by developing new ideas that transformed the camera into an original factor in organizing space and a protagonist of the action” (Quaresima 93).

The juxtapositioning of light against darkness in Lang's film technique marks darkness as an absence, a void, necessary to the portrayal of the ethos behind that light. The "demonization" of the cyborg represents not only the power matrix of a dying ideology, but also the gaze of director and audience that results in disembodiment, and hence, mortality, of the actors observed, like bugs kept too long in a jar. The fetishized object of desire, whether woman or cyborg, becomes an allegory, a fractured fairy tale in which these "secret" agents are simply cogs in the wheels of the narrative machine, a heteroglossia of chaotic local knowledges that come together to make up the city and Lang's narrative.

Haraway reveals that when the body is an agent, not just a resource, in allegories where the boundaries between machine and the human are part of the overall mechanics of narrative production, as "material-semiotic actors" who generate multiple meanings in their play of signifiers, through the axis of their bodies, changing the world at the level of discourse (*Simians* 200). However, when Lang reveals the cyborg's destruction, he re-enforces the idea that such control is not so easy to be rid of, revealing the ironic lie of such innocence in this ironic portrayal of cyborg ineffectiveness. The cyborg is a symbol of denaturalization going on at several levels in the text of *Metropolis*, all through the form of the agent Maria. When Maria uses the myth of Babylon to explain how workers have always been subordinated to an inscribing Logos, "the relationship between text and context...[makes it possible to embed] any text in a context arbitrarily far removed from its point of origin" (Hayles, *Chaos Bound* 266), another *res* of the cyborg image to which she surrenders. Lang is attempting to subvert mimetic representation by the juxtapositioning of differences in the *mise-en-scène* presented in Maria's body.⁷³

Lang's position as director gives him absolute power over the objects of both narrative and filmic machinery to portray several perspectives at once, all through visual portrayals. Lang once stated that he was a "visual" person (Eisner 9), someone primarily focused on the architectural landscapes of his films, which includes how he objectifies his cast members.⁷⁴ As Foster Hirsch notes, "Lang's response to his victims is one of detachment laced with a grim sardonic humor. He treats his characters like figurines, to be moved about according to the demands of his calculated master plan. His characters are specimens to be scrutinized and laughed at, rather than people with whom to sympathize" (116). Indeed, Freder's overly dramatic reactions, typical of silent film heroism, are laughable, and the audience is witness to the Maria-cyborg's scorn of the city scientists who break out into fights over her: she uses their "all-eyes" focus on her to further her own desires. Freder's Oedipal conflict with his father is wrapped in the complications of his father's control of the city, and the dynasty he has created, which is also Lang's dilemma.⁷⁵

If the subject of the gaze in cinema is male oedipal desire, then his object of desire is revealed here as female, and Lang needed to dissociate himself from the role of narrator. Lang's dialectic in this film is precarious precisely because he did not take enough care to wrest his gaze away from the subjects of his own narrative, as Patrick McGilligan warns. Yet Lang *does* reveal how some of these dyadic, Oedipal drives end in the commodification of all flesh. Who would understand the heart as mediator better than the mediator of the media itself? Lang is the mediator, whose own heart of darkness reflects a gaze into the abyss of his own soul, revealing the horror of horrors, his own Abject desires. The mirror may have two faces, but the film camera lens has more than its two sides, by which it can diffract that cyborgian multiplicity of meanings. In his inability

to overcome his own constructions of desire, Lang remained as a Modernist who might have been Postmodern, a mere mortal staring in horror at the abyss who could not transform his message. That trick would have to be done by Others.

So concludes this dissertation. I will end with the idea that these three narratives, although disparate in their origins, use similar methods to achieve the same effects, namely through the figurations posed by scientific models, all with the end of revealing how order arises out of disorder, which I have demonstrated in the figures presented by Conrad, Pound, and Lang through Porush's model of strange attractors, holographic projection, and order out of disorder. As for the era of Modernism, Henry Adams probably summed up that age best, stating that "in plain words, Chaos was the law of nature; Order was the dream of man," since "every thinking being...had exhausted thought in the effort to prove Unity, Continuity, Order, Law, Truth, the Universe, God, after having begun by taking it for granted. ...The child born in 1900 would, then, be born into a new world which not be a unity but a multiple" (Henry Adams 456-7). The works of Conrad, Pound, and Lang all seem to confirm this idea in their works, meaning that Postmodernism was the inevitable next step, the multiplicity for which they were all looking.

Notes

¹ Haraway proposes that cyborgs are postmodern creatures which are specific to post-Second World War culture, but I will argue that informational demons have been around longer than that. Such demons, as metaphors, have long dominated cultural consciousness; they can become feminized scapegoats for dominant patriarchies. As a figure for the “disassembled and reassembled, postmodern collective and personal self” (163), Haraway’s cyborg can also be extended to represent the marginalized, feminized body politic throughout history. Patriarchal institutions instituted implicit binaristic metaphysics, which have resulted in the institutionalization of an “informatics of domination” (“Manifesto” 163) governing all bodies and objects.

² According to Freud, the Father represents ultimate authority within the family unit. Stephen Frosh states that in Lacan’s theory, “the Law of the Father...defines the positions of all subjects within it” (194), and “as being identical with the law of language, the symbolic order which has as its entry the Oedipus situation, and which structures all interactions- even those between mother and child, made primary by object relations theorists. The Law of the Father designates biological differences between male and female come to be the principle axis along which development occurs” (196).

The institution of a chain of meanings encodes the individual according to gender, making it seem as if that categorization is biologically ordained. This “law” situates the relationships between Freder, his father Joh, and Maria, as well as how Freder’s dead mother, Hel, figures into the scenario. According to Freud, the inscribing Words of the Father can control bodies only within patriarchal systems, closed systems which tend to ignore what is outside and Other. The constitution of the Body Politic is made by the codifications of institutions like science and government, both in cahoots with each other in the film. These designation codes simply label Others as absent, accidental, or “oscillating” from the straight and narrow path of domination, since they represent nothing within terms of patriarchal closed conceptions.

³ Jacques de Vaucanson created a mechanical duck in 1735, but the word “robot” itself did not appear in vocabulary until 1923, in Karel Capek’s play, *R.U.R. (Rossum’s Universal Robots)* (Langton 8). The concept of the robotic as daemonic come, in part, from the iconography developed by Lamettrie, a French philosopher, whose ideas of “l’homme machine” and “l’homme plante” demonstrate the human body as a mechanism (Fletcher 238). John Von Neumann made the connections between the logical structure of the machine and the behavior of machines as kinetic models, leading to the discovery of cellular automata, the ground basis for cybernetics (Langton 13).

⁴ The Expressionists believed that the mechanization of mankind was a great evil leading to a final degradation of the human race, an accelerated spin toward entropy; therefore, the Expressionist themes of primitivism and apocalypse are extensions of the same fear of a final heat death for the world, seeking to avoid this apocalypse by revealing their “longing to return to the distant echoes of the animal past, a past free of moral restriction and restraint...to seek an identification with forms of precognitive existence as a manifestation of its collective desire to reenter the world of ‘unconscious consciousness’ ” (Levine 3).

⁵ This idea confirms Freud’s view in *Beyond the Pleasure Principle* (1920) that “all organic instincts are directed toward regression...a primeval beginning that was abandoned by the living being early in its development, and yet toward which it circuitously but continually seeks to return...to the inorganic. Freud concluded that, as the inanimate preceded the animate, death was the goal of all life” (Levine 5), a longing for death, the death drive, *Thanatos*. According to Freud, the death instinct is part of individual consciousness, an internalized part of aggression caused by the individual’s fear of fatherly aggression (the paternal prohibition against incest with the mother) and retaliation, in addition to an ambivalent guilt complex experienced by the individual in their conflict between hatred for the father as a rival and love for him. This internalized guilt manifests itself as a projection of “a psyche set against itself, hedging in the thoughts and behaviors of the individual with proscription and punishment...fear of authority ...[and] a fear of authority internalised, the super-ego” (Frosh 50-51). Frosh maintains the Death Instinct is a product “of our immersion in the social world” (52).

⁶ As Haraway shows, such cyborg figures are subjected by an “integration/exploitation into a world system of production/reproduction and communication called the informatics of domination” where “the home, workplace, market, public arena, the body itself, “ become scientific and cultural objects of knowledge, situated according to established patriarchal institutions and their inscribing binaristic discourses (*Simians* 163).

⁷ The German word “wang” has some interesting connotations in itself and in its context as a name in this film. While “wang” means “cheek” or even “jaw” or “fang” in the colloquial, it has some extended connotative connections in the context of its use. “Zwang” is related to “kraft” as “force;” “Zwangscherrschaften” to mean “tyrannies,” “Webershwang” meaning ardour, “Zwangsarbeit” meaning “forced labor,” and “Swangerschaft” meaning “gestation” (“Wang”). Rotwang, as representative of the power-mad scientist, is connected to all of these concepts in the film.

⁸ Rotwang’s character is representative of science’s quest to catalog natural facts, paradoxical since his ultimate Frankenstein monster is the cyborg. By juxtaposing

science's ideal function with its political manipulations by government, Lang may be expressionistically referring to the notion that science should be in the business of upholding and supporting nature and natural order, rather than superimposing human needs upon it by manipulating it and constructing artificial representations of it. The manipulation of science for selfish and political purposes pervades the themes of Modernist literature, perhaps that man's progress, rather than nature's progress, would lead to a final earthly conflagration. Modern genetics changed the way that taxonomy works by changing the "accidental" and possible to the intentional and probable, thereby reducing some categories and increasing others in natural selection.

⁹ According to Gill Perry, Expressionist aesthetics twisted the Rousseauesque "return" to nature into an "ascent" to Nature, in which progress is not modernization, but an ascent into the realm of chaos: Perry states that this notion was widespread in German art in particular at the turn of the century due to artistic cults that were specifically anti-urban and reactionary to acceleration of industrialization in urban areas (3-4). Lang's *Dr. Mabuse* portrays his urban metropolis as a God who feeds on the sacrificial flesh of workers in Freder's vision of the underground.

¹⁰ Levine explains the Freudian Oedipal triangle as it pertains to Expressionist art as a result of artistic ambivalent identification with Wilhelmine society, "giving them the desire both to destroy the hated world of their fathers as a means of purification and to raise them to a spiritual plane upon which they would again be worthy of respect and admiration" (Levine 12).

¹¹ Geoffrey Pilling explains the way that commodity fetishism works: For Marx the essence of fetishism was this: under commodity production, relations between men take the form of relations between 'things.' The social relations are *indirect* relations, relations mediated through these things, and men simply 'represent' or 'personify' these things in the market place. Now Marx chastised the political economists for taking these forms 'as given' (by Nature) and not as *social* forms arising under definite historical conditions, forms which would therefore disappear under new social conditions (158-9).

¹² In a rare metanarrative stab, Lang expressed his authorial point-of-view on Expressionism ironically in *Dr. Mabuse*, when another character, a decadent, weak, latent homosexual art-collecting aesthete named Count Told, asks Dr. Mabuse "What do you think of Expressionism, Herr Doktor?," to which Mabuse responds that "Expressionism is just a game, but, nowadays, in life everything is just a game" (Eisner 60). Eisner states that the reference is significant for Lang as an ironic joke, because he "has always refused to play aesthetic games" (60). Eisner states that Lang specifically named Gustave Klimt and Egon Schiele as artists who influenced his cinematic techniques, and while he started

as a painter, he became frustrated by the static pictures he was painting; he often went to the cinema to see “pictures in motion” (12).

¹³ As Patrick McGilligan notes, one can see “the influences of Bauhaus teacher Lyonel Feininger and Oskar Schlemmer, architects Bruno Taut and Hans Poelzig, sculptor Rudolf Belling--whose figurative style fused Cubist and Futurist principles--and even the Swiss free fantasist Paul Klee” (112).

¹⁴ Vitruvius states that symmetry is key to the idea of using the image of the human body as a metaphor for mechanical and symmetrical perfection (Hall 173). According to Manley Hall, the human body as symbol for the mysteries of the microcosm and the macrocosm was a Greek theory that the divine plan was mirrored in the image of man, which later became an emblem of both the Platonic and Christian Dionysiac Mysteries in the late Middle Ages and the Renaissance (73). The stratified or “crucified” figure in Agrippa’s *De Occulta Philosophia* is one such example, which declares the human body as “a type of the lesser world, [since] man contains in himself all numbers, measures, weights, motions, and elements” (Hall 175), or in Leonardo da Vinci’s *Image of Man*, the more famous of these images. Madame Blavatsky explains in *Isis Unveiled* the kabbalistic pagan conception of man as a microcosm (Hall 73). The three Monads constitute Pythagoras’ numerological One, the divine mystery, which translates into the Christian trinity of the Father, the Son, and the Holy Ghost, corresponding to Eternal God, Eternity, and the “paradigm, or pattern of the universe” (Hall 73). This Pythagorean formation becomes significant when I discuss the relationship between Freder, Joh, and Rotwang, as the three bodies constituent of this triad that makes up the Monad.

¹⁵ Sophia Chan interprets Claude Shannon’s description of life as “a living system [that] encapsulates a complete description of itself by serving a dual role as “a *coded* description of the rest of the system,” as well as being a working literal model of itself. According to Chan, when a part of a system is able to build “any of a large class of objects--including the living system itself, provided it is given the proper directions,” is a “universal constructor unit” (Chan). Whether a cellular model or a hardware robot (or a combination of the two), if they can reproduce, then they are, by definition, “alive” (Chan).

¹⁶ Matthew Arnold’s *Culture and Anarchy* provides a persuasion that “supplied an etiology of cultural growth and decay along with an aesthetic of cultural order and chaos” in a way that bordered on the evangelical, influencing the public eye to such images” (Chamberlin, “Images” 269).

¹⁷ As Chamberlin reveals, Ernest Renan’s image of the oyster producing the pearl

of great value is one metaphor that describes the process of a universal body's process of purging itself of a disease (Chamberlin, "Images" 264-65). The cyborg is such an image.

¹⁸ As Quaresima indicates, "within a wider process, set off by the Expressionist chapter, German cinema in the 1920s became a melting pot for art of diverse nature... [where] the heavily distorted sets and backdrops, the sharp angles and tilted perspectives, the tendency to make inanimate objects biomorphic, were the result of a translation to film of features inferred from painting, theater, and architecture" (Quaresima 93).

¹⁹ According to Eisner, Lang stated, "I am a visual person. I experience with my eyes and never, or only rarely, with my ears--to my constant regret" (9).

²⁰ Lang achieved many of these technical effects by using a camera on a swing and mirrors. "What is important is that at this time such effects, however much we now take them for granted, had to be 'invented'. Eugene Schüfftan's mirror process, for instance, the first successful method of combining models with full-scale scenes, gave Lang wonderful decorative possibilities in this film...[such as] the stadium of the rich and the gigantic head of Hel," which were both "mirrored in" (Eisner 91).

²¹ Eisner reveals that the physics of the cyborg's body was identified by its maker, Walter Schulzte Mittendorf, the master of the cyborg special effects of the film, which he explains in *The Robot. Its Birth* as a product of Expressionist technological form. He explains that first, they attempted to use chased copper plating (a suit of armor, essentially) for the cyborg body; by accident, he stumbled upon a trade sample of plastic wood, which was finally molded around Brigitte Helm's body to create the cyborg: "'Plastic wood' turned out to be a kneadable substance made of wood, hardening quickly when exposed to the air - allowing itself to be modeled like organic wood. (qtd. in Eisner 93). Once again, Expressionism finds its movement through *plasticity* (Cheney 129).

²² Lang's narrative reminds me of John Donne's "Holy Sonnet 14," in which the narrator tells his "three-personed" god that only by ravaging (raping) him, can he be "chaste" (14). For *Metropolis*, this three-personed god is represented in three separate bodies, the father Joh (Jehovah) as Head, the Christ-son Freder as Heart, and Rotwang's invocation of a demon, the holy spirit, the Maria cyborg, as Hands/science/technology.

²³ According to Judith Mayne, Kaja Silverman theorizes that "the term 'subject' helps us to conceive of human reality as a construction, as the product of signifying activities which are both culturally specific and generally unconscious" (Silverman qtd. in Mayne 32).

²⁴ The audience would be hard-put to discover how Joh's association with Rotwang came about years before, according to the edited versions of the film: a key element of the plot was edited out, concerning how these two men had been sexual rivals for a woman called Hel, years before; only one mention of Hel occurs in the final editions: one reference occurs when the camera briefly reveals the bust of Hel in Rotwang's laboratory. The plot thickens even more as we see that Rotwang, who has carried a torch for Hel through the years, has not only immortalized the dead Hel with her own shrine and bust, but has gone so far to model a robot after Hel's likeness; however, the robot still comes no where near an actual resemblance of a living Hel. Joh comes to Rotwang, requesting that the robot, originally modeled for work, be made to look like Maria. Another major reference to Hel was cut in the film in which Rotwang is about to release Maria, originally stating that "Joh Frederson took the woman from me. He made me evil...but I will defy the Will which is above you and me. If you give me your hands I will go with you into the City of the Dead, so that you can warn your brothers, so that you can unmask your stolen ego." According to Jensen, one of the confusing narrative blunders in this film and all of its editions was the removal of practically all of the information regarding Freder's mother, Hel; Jensen reveals that the original plot included a narrative about how Hel was eventually won over by Joh, but how she died in childbirth with Freder: thus, Rotwang blamed Joh for her death (Jensen).

²⁵ Lang already saw that the Germans were working on building a nation of supermen. Haraway explains the significance of cloning for the purpose of the State: Gene mapping is a particular kind of spatialization of the body, perhaps better called 'corporealization.' If commodity fetishism is the kind of mistaken self-identity endemic to capital accumulation, and hardening of the categories is the form of self-invisible circulatory sclerosis in important areas of scientific epistemology, what flavor of fetishism is peculiar to the history of corporealization in the material and mythic times of *Life Itself*? As before, the goal of the question is to ferret out how relations and practices get mistaken for nontropic things-in-themselves in ways that matter to the chances for liveliness of humans and non-humans (*Modest_Witness* 141). Rotwang's cloning technology in this film was an idea that pumped up Hitler's own idea of commodifying the reproductive, as well as the productive, power of people, especially women, in his plan to conquer the world through Aryan genetic superiority; in fact, UFA, the studio responsible for this film, began as a propaganda machine during World War I, and Hitler, along with Joseph Goebbels, planned to use the science of film technology to influence the masses in Germany (Kracauer 2). Rotwang, like Goebbels, is a figure of subservience, but Rotwang's membership in the Mind's group protects himself somewhat: he is the one who helps his Master to conquer the feminized masses by masterminding a technology of the feminine figure itself. As the "red jaws" of the head as part of the mind, science is demonstrated as the power to both feed and defend the mind, the source of its physical

power over the hands.

²⁶ According to Angus Fletcher, “the perfect allegorical agent is not a man possessed by a demon, but a robot, a Talus;” the cyborg would be a “daemonic machine [which] approaches the status and power of a god” (55-6).

²⁷ Julia Kristeva defines the term “Abject” in her *Powers of Horror* (1982) as something that “disturbs identity, system, order, what does not respect borders, position, rule,” as well as “the in-between, the ambiguous, the composite” (4). The cyborg becomes Abject by her position as Demon and woman, two abject sites brought together in one image by Rotwang’s magical combining of science and occult programming.

²⁸ This dilemma brings in the question of how science uses Woman as means of capitalistic production, as reproductive machine. Haraway states that women occupy a position of “intensified sexualization of abstracted and alienated consumption,” a commodity that consumes (*Simians* 171).

²⁹ As Hall notes, in ancient temples, statues of the human body (manniquins) represented the Divine Power and Plan in all of its manifestations, and had compartments that opened as medical mannikins have, to show the different organs of the body; these mannikins were labeled with hieroglyphics and symbols, each part having secret meanings, and over the years, these parts were extrapolated as measured parts of the cosmos (Hall 74).

³⁰ Unlike the murderer, a type of tragic character Lang perfected from the time of his German films (like 1931’s *M* with Peter Lorre) to the apex of his American filmography, Freder is an early stereotype of the utopian hero, and as I argue, a reflection of Lang’s own idealism.

³¹ In August 1947, Lang wrote an article for the *Los Angeles Herald Express* in which he discussed character motivation and the role of strong emotion in film: “drama begins with emotion, strong emotion and with conflicts of desire and temperament. Given a group of human beings, hemmed in by circumstances, driven by urges conscious or unconscious, their actions must march to a climax and from that climax to a resolution” (qtd. in Eisner 400).

³² As Camille Paglia notes, the Aphrodite rising from the foam is a birth metaphor, since she literally rises from the “foam” emitted from Uranus’ mutilated genitals, “a transubstantiation of Uranus’ virility” (Paglia 87).

³³ For Expressionist sculptors and architects, the cathedral represented the *Gesamtkunstwerk*, the site where all worship and communal activity comes together (Ranfft 69).

³⁴ As Haraway states, women occupy a position of “intensified sexualization of abstracted and alienated consumption,” a commodity that consumes (*Simians* 171).

³⁵ Haraway notes that the fetishist “is uniquely invested in his power-object. The fetishist, aware that he has a substitute [for the mother’s imaginary phallus] still believes in—and experiences—its potency; he is captivated by the reality effect produced by the image, which itself mirrors his fear and desire” (*Modest_Witness* 144).

³⁶ Karl Marx explains such worship as the effect of commodity fetishism taken to the nth-degree, to religious stages of analogy (436).

³⁷ According to Laura Mulvey, “the fetish...is haunted by the fragility of the mechanisms that sustain it...Knowledge hovers implacably in the wings of consciousness” (qtd. in Haraway *Modest_Witness* 144).

³⁸ I read Freder’s fainting spell and his subsequent dream as an indication of his inability to cope with the split image of the good Maria and this new bad one, a confusion of dread with desire. As a childish ego dealing with a projection of his desire for his mother, he is struggling to come to terms with these images as good and bad breasts, phantasy objects of desire, both rewarding and frustrating. This relationship explains the process of dealicetic reasoning occurring in the film that poses good against bad, subject against object, son against father, and son against mother.

The demonization of the individual psyche of Freder turns into a kind of persecutory anxiety, a paranoia that he cannot deal with, a splitting off into a libidinally destructive object. Fear of persecution by this threat of “chaos” inherent within the cyborg as object explains how this defense mechanism is responsible for projection identification, the basis for empathy and symbol formation. If Freder had continued to see Maria only a a good/bad breast-object, then his fragmentation would have continue into complete madness; only when he is able to see her as a whole person, just as he can see his mother as a whole person, has Freder integrated the mother’s body “parts” into a whole. At the point of his dream state, Freder still misrecognizes Maria as the bad breast of his mother. Freder’s persecuion complex threatens to destroy every concept he holds dear, and moreover, extends its Death Instinct as a metaphor of the death of the city itself.

³⁹ According to Ranfft, the stone guardians evoke the Judeo-Christian mythology

of the Golem as a ritual “where a clay statue of the giant is brought to life to save the Jewish people of medieval Prague from expulsion from the Ghetto” (70). Thus, one could read this image of the seven deadly sins as meaning that the underworld Hands will be expelled from their homes by some catastrophe.

⁴⁰ In the section on Lang and his motivations, I explain this dream segment as derivative of Lang’s own experience of such a dream in his childhood. In Lotte Eisner’s biography, Lang explains this dream as the motivation behind his film-making techniques, particularly with his “love affair” with Death (Eisner 55-56).

⁴¹ As Haraway notes, the cyborg of the late twentieth century is different from this one, engendered as it is in the politics of the city, because “holistic politics depend on metaphors of rebirth and invariably call on the resources of reproductive sex” (181).

⁴² The phantasmagoria Lang portrays in this scene were actually the original focus of the film, rather than the maudlin Marxist plot of Thea von Harbou’s conception. The scene with the seven deadly sins coming to life was meant to show the evil of technology, so its purpose certainly was not Futurist, as some critics have attempted to claim. The neglect of the cathedral and the worship of technology has loosed this evil, creating pandemonium for the city. “Perhaps this failure to express, as intended, the *mystical* symbolism is the reason why the *sentimental* symbolism favoured by Thea von Harbou seems so embarrassing, striking a jarring note in an otherwise grandiose vision of the world” (Eisner 87).

⁴³ Lord Kelvin (William Thomson) coined the term “demon” to refer to the “very small BUT lively beings incapable of doing work but able to open and shut valves which move without friction or inertia...to show that the 2nd law of Thermodynamics has only a statistical certainty,” and Maxwell stated that this demon has no more function than that of a valve (Smith 251-2). Therefore, the term “demon” has many occult connotations that Maxwell did not intend for this “being,” but since Thomson’s term stuck (culturally speaking), Maxwell found it necessary to explain that his demon did not have these special powers. His demon act as a metaphor for similar work tasks that would be impossible for a human, as a *deus ex machina* in a dramatic heuristic, for example.

⁴⁴ As Warren Weaver quotes from Eddington’s *The Nature of the Physical World*, “entropy is only found when the parts are viewed in association [to their whole], and it is by viewing the parts in association that beauty [aesthetics] and melody [the sublime, writing] are discerned,” because “all three are features of arrangement” (qtd. in Weaver 28). Weaver includes meaning along with beauty and melody, where “entropy...speaks the language of language” (28); thus, entropic images are metalinguistic.

45 As Latour notes, any time someone constructs a machine, the paperwork of abstract calculation disappears into the woodwork of its administration: “in the very process of their construction [the paperwork that gives the machine its coding] disappears from sight because each part hides the other as they become darker and darker black boxes” (253).

46 Just as the Trojan war was begun over the possession of a woman, Helen, in a contest between matrimony (Hera), beauty (Aphrodite), and wisdom (Athena), all over an “apple of discord.”

47 Venus rising from the sea is like the image of the atom, irreducible to an observable form (Assad 291), since this image occupies a site of endless repetition inscribed within her topography, where the trope reifies itself within the multiple sites its mirrors, within its own tropical terms of internalization of meaning. The Venus image is a birth metaphor, an emblem for individual discord within the psyche as a result of that confusion of spatial identification as ego verification.

48 Assad’s analysis of Serres’ *Genèse* deconstructs this Venus image as “noise,” a trope of chaos that gains power as a sign and a referent, which Serres significantly labels this image as “*la belle noiseuse*,” the point of original genesis that is chaotic in nature (282). Noise constitutes anything added to an initial signal between the source of its transmission and its point of reception, meaning that since these “additions” are unintentional by the author of that transmission, they are necessarily unwanted, and which may even change the original message in such a way that that message becomes completely distorted or obfuscated (Weaver 7-8).

49 As demon, the Maria-cyborg is also representative of another underworld, one of chaos and destruction, occupying the site of anomaly as servant to a sorcerer, Rotwang, whose pact with the devil demonstrates an alliance outside the realm of normal totems, a “serialization of resemblances with a structuralization of differences” (Deleuze and Guattari 246).

50 As William Leiss states, “what began as an external relation is now an internalized process, whereby the dependent member (the human being) surrenders its own authentic being to its erstwhile instrument,” where the machine as automaton overlaps with the metaphor of the human being as automaton. This machine-person, being strictly mechanical, has no choice but to wind down because “this metaphor worked on the identification of the machine with inorganic, necessity, repetition, and identity, and thus death--and the concomitant association of life with the organic, and with contingency,

variation, or freedom” (150).

51 Deleuze and Guattari state that whenever sorcerers [like Rotwang] “pass over to the side of the family and descent,” “this spells the death of the sorcerer, and also the death of becoming” (248).

52 According to Stephen Frosh’s interpretation of this Lacanian castration complex theory, “the subject enters the symbolic universe on the basis of division [the differentiation between the ego and its mirror image, its “object of desire”] and absence [from that object of desire], the fantasised possession or lack of a symbolic object onto which all meanings and differentiations are projected--the phallus” (196). Therefore, “all experiences between person and person, from the earliest mother-child interaction, are organised according to the law and its symbolism (Frosh 194).

53 These sanctions constitute what Haraway refers to as a “God Trick”: “from the standpoint of situated knowledge, strong objectivity...can be a fragile human achievement. But from the stance of the god trick of scientific creationism, only fetishism--the culture of no culture, the language of no language, the trope of no trope, the one self-referential word--is possible. (Haraway *Modest_Witness* 138) As Deleuze and Guattari point out, the politics of becomings-animal societies always appropriate “becomings” to reduce them to symbolic correspondences (248).

54 As William Leiss indicates in his analysis of *Metropolis*, “the iconic representation of the machine...was evidence for the darker side of the human experience with large-scale machinery that qualified the popular enthusiasms expressed at the great exhibitions [of technology]” (147). Furthermore, “this deeply rooted ambivalence in the popular mind was mirrored in the struggles by imaginative writers [like Lawrence] and social thinkers [like Henry Adams] to come to terms with the industrial age” (Leiss 147).

55 Disappearance as sign of transformation is a classic Freudian scenario, where the disappearance, as in pupa into a chrysalis, will precede the metamorphic transformation.

56 According to Linda Alcoff’s reading of the identity crisis of woman, the category of “woman” is nominal, negative, and “the only way to break out of this structure, and in fact to subvert the structure itself, is to assert total difference, to be that which cannot be pinned what is not” (379).

57 According to Huyssen, Thea von Harbou believed that “if a male god created the world...then he certainly created woman first” (Harbou, qtd. in Huyssen 226). Harbou

notes that "...After all, Rotwang creates the android as an artifact, as an initially lifeless object which he can then control and dominate. Clearly the issue here is not just the male's sexual desire for woman. It is the much deeper libidinal desire to create that other, woman, thus depriving it of its otherness" (Harbou, qtd. in Huyssen 226). Harbou reveals that woman, through her very essentialization, defies mechanization and control of the male scientist. According to Evelyn Fox Keller, this "male phantasm" that Huyssen describes is the distancing of the male scientist from heterosexual relations, the dominator over the immanence of nature (38).

⁵⁸ Like the cyborg, Rotwang, as sorcerer, holds the anomalous, ambiguous site of the marginal borderlands between life and death, and his alliance with a demon demonstrates "the power of the anomalous" as two forms of sexual curse: the "process of filiation transmitting the original sin," and the second as "a power of alliance inspiring illicit unions or abominable loves" (Deleuze and Guattari 246), so that the sorcerer not only cavorts with demons, but must make a pact with the devil for the demon's services, the commitment to a permanent site of marginality. As Tiffany notes, "for the most important modern allegories of making, ...usually exhibit a fascination with death, which finds its limit--and extinguishes itself--by deconstructing 'death' in matter (or language), thereby revealing the fundamental animism of things (and words)" (71). Tiffany notes that, "similarly, modern cultural fixations on death, as unmaking or decomposition, should be viewed as negative or inverted allegories of the irrationality--the 'magic'--of making(7). Rotwang's death is part of this cult of death and apocalypse, the power of a negative sublime, a modern allegory of making and unmaking of subjects and objects so that only a residue, a ghost, is left of them, as well as part of that "passing over" to the underworld that the sorcerer must make so that the order of the family can be restored, according to Deleuze and Guattari (248).

Within the Marxist interpretation of the chrysalis image of transformation as birth, "as a symbol of metamorphosis or change, the chrysalis reflects Marx's view that the artifact [Hel] becomes a fetish only in the act of exchange [the exchange between Rotwang and Joh Frederson]," since " 'It is only by being exchanged that the products of labor acquire a socially uniform objectivity as values, which is distinct from their sensuously various objectivity as articles of utility,' " according to Marx's *Capital* (qtd. in Tiffany 77-78). The fetish is thus not only artifactual, but undergoes a transformation in this exchange process, where "the chrysalis is a place--a *topos*--disguising its character as an image, from which another image, a phantasmal value arises," so that "the trope of metamorphosis has a direct bearing on the *Doppelcharakter* of the fetish" (Tiffany 78).

⁵⁹ The state "acquires" the becomings of war machines are limited to the programmings of the head of state, reducing them "to relations of totemic or symbolic

correspondences” (Deleuze and Guattari 248).

⁶⁰ This ancient scenario is typical of the dynastic universal plot of Greek kings and their family problems, particularly Sophokles’ *Oedipus Rex*, which also sets up the classic psychoanalytic ego development scenario. The original version did much to explain how Hel figured into the situations of Joh, Freder, and Maria, as well as how Hel becomes a symbol, killed by the fetishizations of Joh and Rotwang, and held in memorium by Rotwang, whose fanatic devotion to Hel results in the demonization of Maria’s image.

⁶¹ Ironically, this image evokes Fraser’s “Golden Bough” patriarchal anthropological notion of totemism as an inconsistent philosophy, “a crude superstition, the offspring of undeveloped mind, indefinite, illogical, inconsistent” (Fraser qtd. in Siegel 205). Victorians like Fraser indicated that the savage was a clear indication of what was to be valued in a civilized society.

⁶² According to Ralph Metzner, Hel is a mythological icon comparable to that of “the Greek Persephone, the Sumerian Ereshkigal, and the ‘White Lady’ of the Old European traditions,” probably originating as a form of the triple goddess, her deathly aspect “symbolizing one of the three main functions of the Goddess--the other two being life-giving, or birthing, and transformation, or regeneration” (Metzner).

⁶³ As Luce Irigaray notes, “the status of the “exteriority” of this form [of alienation in Technology]... is “constituent” [rather than constituted] for the subject, into the way it serves as screen to another outside (a body other than this “total form”), into the death that it entails” (117), resulting in a “mirage” for the observing subject, fixating the subject’s notions and projecting them, in itself a “phantom” of the subject’s desires.

⁶⁴ Such a desublimation (condensation) is a “hardening of the categories,” in which the vapor turns directly into solid matter for the Maria-cyborg-Hel clone, a crystallization and thus artifactualization of a subject into an object, and meanwhile, the subjects, Freder, Joh, and Rotwang, impose their sublimations upon her, so that she is desublimated as vapor/ghost, woman, and demon, and once again subliminal as Maria separates from robot and ghost. Tiffany explains that death is a signifier for transformation: “The ‘death’ of subject and object presupposed (and embodied) by the modern, formalist image is emphatically *not* a simple disappearance or elimination of these entities but a suspended animation, a transubstantiation, a mediation of bodies” (Tiffany 11). Beautiful forms can mask encrypted signs, figural writing, whereby death becomes a “discursive condition, a mediation of bodies and historical conceptions of the artifact, visibility, pleasure, and subjectivity (Tiffany 11). According to Abrams’ *The Mirror and the Lamp*, “the endemic disease of analogical thinking...is hardening of the categories,”

“for as Coleridge said, ‘No simile runs on all four legs’; analogues are by their nature only partial parallels, and the very sharpness of focus afforded by a happily chosen archetype makes marginal and elusive those qualities of an object, which fall outside its primitive categories” (35). This “overflow” is the uncontrollable nature of language itself, falling outside the author’s capacity to control its *Wanderlust*.

⁶⁵ As Chamberlin notes, “to transform a precise idea of degeneration into the elusive reality of metaphor or metonymy...[as] part of the economy of literary or scientific discourse...to implicate the figures of speech in the meanings of degeneration, and to intensify an awareness of the moments as well as the conditions of change in a way that centered on the paradox of their degenerative vitality”(Chamberlin, “Images” 267). Accordingly, “the poets, experts in metaphor and metonymy and therefore in deviations from original types, often located their subject as well as their language in the complex changes and energies of transformation, of which degeneration was the most familiar image” (Chamberlin, “Images” 267).

⁶⁶ As demon, the Maria-cyborg assumes a typical allegorical position within the narrative as a mediator between the divine and the human, as in Augustinian codifications of Christian theology, which “locates metamorphosis in that special realm where the pagan and Christian traditions intersect, that of the ancient gods who were permitted to survive as demons or fall angels...Demons are intrinsically metamorphic” (Leonard Barkan, qtd. in Clarke, *Allegories* 13). She becomes an emblem of the struggle of the psyche for identity because she represents the Lacanian “barring of the subject,” “the loss of being that comes from re-presenting oneself in language as a meaning,” a coupling and deconstruction of physical form with and from mental identity, where “metamorphoses plot the dispossession of a given subjective relation and the displacement of its terms,” and finally, “an allegory of the death drive--absolute en-tropy, the complete literalization of the figurative” (Clarke, *Allegories* 57). Clarke points out that the struggle between loss and recovery is emblemized in the metamorphic figuration, the wandering that the metamorph must go through (the *Wandlung*, German for “transformation”) is the journey that marks the demon cyborg of Lang’s conception as a dispossessed agent, cast out of heaven by God as fallen angel, and brought to earth unwillingly by an act of repression (Clarke, *Allegories* 57). Like Cynthia of Pound’s *Homage to Sextus Propertius*, who is accused of lying with an incubus, when Freder witnesses the “birth” of the cyborg in his nightmare, as she is introduced in the auditorium, she is a succubus inscribed with the memory of the dead Hel, giving birth to the monster within Freder. This *wanderlust* began in his quest to the underworld of Metropolis, a quest that must take place so that the figures in his vision can be consolidated.

⁶⁷ As Katherine Hayles notes,

cyborg narratives can be understood as stories only by reference to the very life cycle narratives that are no longer sufficient to explain them. The results are narrative patterns that overlay upon the arc of human life a map generated from assembly and disassembly zones. One orientation references the human, the other the posthuman; one is chronological, the other is topological; one assumes growth, the other pre-supposes production; one represents itself as natural or normal, the other as unnatural or aberrant. (“The Life Cycle” 323)

⁶⁸ As Eisner reveals, Freder’s dream sequence is very likely a portrayal of one of Lang’s own childhood dreams that occurred during an illness that almost claimed his life. Lang wrote an essay, “On Benevolent Death,” which appeared in the *Berliner Tageblatt* on 1 Jan. 1927, in which he explains “the childhood dream which most influenced my life and work was concerned neither with friendship nor with love,” “yet...awakened in me an emotion of fear, growing into love of such force,” so much so that he became fascinated with mysticism (qtd. in Eisner 55). According to Lang, “I saw myself face to face, not terrifying, but unmistakable, with Death. Made of black and white, light and shade, the rib cage, the naked bones. On top of it, the head, barely recognizable, shaded by the wide-brimmed hat. Death and I gazed at each other” (qtd. in Eisner 55). Furthermore, this vision resulted in an epiphany.

I don’t know whether I should call the feeling I experienced at that moment one of fear. It was horror, but...even the horror made way for a kind of mystical ecstasy which gave me...the complete understanding of the ecstasy which made martyrs and saints embrace death. ...The love of death, compounded of horror and affection, which the Gothic most depicted, stayed with me and became a part of my films: humanizing in *Destiny*, symbolic in *Die Nibelungen*, living Gothic in *Metropolis*.
(Lang qtd. in Eisner 55-6)

Lang’s story is similar to one of my own, only my “ghost” visited me one night either before or after my own life-altering illness, and has similarly affected my own interests in the occult in literature, so I can relate to how this dream of death could influence him to look into such questions of life and death, and how it influenced his “scientific” approach in using the camera to “capture” action of film.

⁶⁹ As Wheeler Winston Dixon posits, “at the center of filmic discourse is the instinctive reciprocity of looks interchanged between viewer/image, a function often veiled, but always present”; furthermore, he backs up this position by citing Jean-Francois

Lytotard concerning the mechanistic reception/reproduction process:

It is clear that what is important is not simply the fact that [these devices] communicate information. Reducing them to this function is to adopt an outlook which unfuly privileges the system's own interests and point of view. A cybernetic machine runs on information, but the goals programmed into it, for example, originate in prescriptive and evaluative statements it has no way to correct in the course of its functioning. (64)

⁷⁰ "In 1958 [Lang] said, 'I don't like *Metropolis*. The ending is false. I didn't like it even when I made the film" (Flippo 2). Critics have questioned Lang's reticence to owning up to the film, some positing that he may have simply been concerned with the narrative itself. However, Lang may have been trying to put some distance between himself and the Nazis, especially Hitler, who loved the film and who may have interpreted the cyborg as a feat of genetic engineering, a pet project which had a great deal of importance to Hitler. One idea that Hitler *did* pick up on concerned the power of the lens to manipulate the viewer: after all, *he* was seduced by the idea of the cyborg as reproductive power. Hitler understood the literal content of the film, but he did not see the director's intent, a problem all too pervasive in literary production, and one which also dogs film production, because it, too, is dependent upon literary structure.

⁷¹ Laura Mulvey relates the act of looking to pleasure principles posed by Freud:

The cinema offers a number of possible pleasures. One is scopophilia (pleasure in looking). There are circumstances in which looking itself is a source of pleasure, just as, in the reverse formulation, there is pleasure in being looked at. Originally, in his *Three Essays on Sexuality*, Freud isolated scopophilia as one of the component instincts of sexuality which exist as drives quite independently of the erotogenic zones. At this point he associated scopophilia with taking other people as objects, subjecting them to a controlling and curious gaze. ...The cinema satisfies a primordial wish for pleasurable looking. (Mulvey 16, 17).

⁷² As I outlined in the first section of this dissertation in relation to Conrad, Spiegel explains the camera's passive, "dumb" eye as an estrangement device (67-8).

⁷³ When Lang denatures time, he takes time out of its natural order, as in Freder's nightmare scene of the Seven Deadly Sins, an omniscient halt of narrative time for the sake of exposition of several different perspectives at once. Lang coyly deconstructs all natural origins, only to reweave them again, much like Penelope weaving and unweaving

Laertes' death shroud in the *Odyssey*. Indeed, *Metropolis* is a modern *Odyssey*, the story of the journey of an *Übermensch* to the underworld of the Hands, back to the enlightenment of the Symbolic realm of his Father Joh, the modern Hermes who ultra-transcends the paths of the dead.

⁷⁴ The question is, did Lang buy into his own film narrative? Did he, like the male scientists in the film, objectify women as objects to be held in his cinematic gaze, fetishizing them even as these men did the cyborg? Many critics have pointed out Lang's sadism toward his actors, especially the female ones, as having positive results concerning realism on screen, but having detrimental ones for the actors, sometimes resulting in the termination of these actors' careers. According to Hyde Flippo, Lang was guilty of using actresses in ways that would be consistent with that theory: Brigitte Helm, the actress who played Maria, was forced to wear the robot costume so that Lang could present the robot as animated, which he states "was just part of her torture at the hands of director Fritz Lang," and "if that weren't enough, director Lang decided he needed real flames for the *Metropolis* witch-burning scene. Though she was unhurt, poor Brigitte's dress caught fire during the filming, and Lang and his assistants had to quickly beat out the flames" (Flippo).

⁷⁵ As Mulvey notes,

The mirror phase occurs at a time when children's physical ambitions outstrip their motor capacity, with the result that their recognition of themselves is joyous in that they imagine their mirror image to be more complete, more perfect than they experience in their own body. Recognition is thus overlaid with mirsrecognition: the image recognised as superior projects this body outside itself as an ideal ego, the alienated subject which, re-introjected as an ego ideal, prepares the way for identification with others in the future. This mirror moment predates language for the child. (17)

One interesting fact to note concerning this film concerns the significance of naming, and Freder is a form of Friedrich, Fritz Lang's real name. At the time of Lang's production of this film, perhaps he intuited the problems with the Word of the Father (or Der Vaterland), but as the hero of his own film, he could not find a way to overcome the coming fascism of that rule. This theory explains both Freder's predilection for gazing at the cyborg, for objectifying Maria, for escaping the gaze of his Father, and then returning to his Father's order, but it also explains why Lang failed to recognize the false consciousness of his film's ending, in time to change it. Because Lang relied on gazing himself so much, and because this film is silent, constitutes a focus on gazing, Lang as director had not yet

entered into the linguistic realm that talking pictures would later offer him. Just as Freder is brought back to his *Vater* and that unified topology when Freder is able to gain speech to articulate his mediation after he is catapulted into development of the symbolic, Lang later gained the ability to manipulate language in order to articulate his ironies better and resolve the problems presented by such dyads as I have been discussing in this film, only after he escaped the rule of his fatherland, especially under Joseph Goebbel's controlling gaze.

Goebbels was Hitler's propaganda minister, and therefore responsible for national morale. As Patrick McGilligan reveals, the constant monitoring of Nazi emissaries, including the adding of Nazi material to his screenplays or outright bans, as Goebbels did to *Das Testament des Dr. Mabuse*, finally forced Lang to flee to Paris, and then to the United States, in 1933. This film in particular was one of Lang's darkest stories, "like a spinning tornado, with Germany at its dark vortex, and Mabuse an apocalyptic purveyor of doom" (McGilligan 183). Despite Goebbel's political maneuverings, secretly, the propaganda minister admired Lang enormously, banning this film in public and showing it to guests at his own private residence; as McGilligan reveals, not all of Lang's films were banned after his flight, as *Die Nibelungen* continued to be reissued, merely "touched up by the Nazis" (184).

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